

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

TABLE OF CONTENTS

PROBLEM NUMBER	DESCRIPTION	PAGE NUMBER
	<u>INDEXES</u>	
	EQUIPMENT INDEX .....	ii
	ACTION INDEX .....	iii
	ORIGINATORS INDEX .....	v
	DUE DATE SUMMARY .....	ix
	 <b>PROBLEMS</b>	
<u>15125</u> *	LAU-61C/A ROCKET LAUNCHER DAMAGE OBSERVED DURING POSTFLIGHT ..... INSPECTION.....	1
<u>16407</u> *	DAMAGE TO HORIZONTAL STABILATOR OF F/A-18 AIRCRAFT DURING ZUNI .. MK 71, MOD 1, FIRINGS.....	32
<u>16629</u> *	2.75-INCH LAUNCHER DID NOT FIRE ROCKETS OR FIRED ROCKETS ..... INTERMITTENTLY.....	41
<u>16633</u> *	FIVE-INCH ROCKET MOTOR FIRED INTERMITTENTLY.....	67

**NOTE:** OPEN problems denoted by asterisk (\*) following problem number.

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**OPEN**

	<b>NOMENCLATURE</b>	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	2.75-INCH RKT LNCHR, THERMALLY PROTECTED	DL958AS120	1340	01-144-3436	H121

**EI CNTRL NO:**

**PROB BRIEF :** LAU-61C/A ROCKET LAUNCHER DAMAGE OBSERVED DURING POSTFLIGHT INSPECTION

**PROBLEM :** Postflight launcher inspection discovered blast paddles were broken  
**DESCRIPTION** loose and protruding from aft end.

**PREVENTIVE :** Notice of Ammunition Reclassifications 0291-94 and 0292-94 placed  
**ACTION** LAU-61C/A Rocket Launcher Lots HIR88A001-001A and HIR88J001-006 in to Condition Code "Juliet".

**CORRECTIVE :** An extensive engineering investigation is being conducted by NAWC  
**ACTION** Weapons Division Pt. Mugu (Code P2747) and Indian Head Division NSWC (Code 5720).

	<b>SOURCE</b>	<b>TYPE</b>	<b>DOCUMENT NO.</b>	<b>DATE</b>	<b>DR STATUS</b>
<b>OCCURRENCES:</b>	MALS-14	PQDR I	M09114-94-0010	18FEB94	OPEN
	HMLA-167	CODR	M09898-94-0002	11FEB94	OPEN
	VMA-231	CODR	M52948-94-0003	31JAN94	OPEN
	VMFA-451	CODR	M09238-93-0017	10JUN93	OPEN
	MAWTS-1	CODR	M55167-93-0093	15APR93	OPEN
	VMA-513	EMR	M09231-92-0036	27MAY92	OPEN

**ACTION :** MALS-14 PQDR I M09114-94-0010 18FEB94 OPEN

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>S/N:</b> UNKNOWN			
	<b>LOT:</b> HIR88A001-001A			
<b>FAILED PART:</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>LOT:</b> HIR88A001-001A			

**DESCRIPTION:**

MALS-14 180710ZFEB94: Upon postflight inspection, LAU-61C/A Rocket Launchers were discovered with one or more rivets missing from the blast paddles.

**ACTION TAKEN:**

NSWC INDIAN HEAD 181446ZFEB94: Request for Notice of Ammunition Reclassification.

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

NOC IMSD MECHANICSBURG 021930ZMAR94: Notice of Ammunition Reclassification 0291-94 reclassified LAU-61C/A Rocket Launcher Lot HIR88A001-001A to Condition Code "Juliet".

NSWC INDIAN HEAD 031546ZMAR94: Request to ship two Condition Code "A" LAU-61C/A Rocket Launchers (one from Lot HIR88A001-001A and one from Lot HIR88J001-006) to NAWC Pt Mugu, CA for an engineering investigation.

NSWC INDIAN HEAD 061546ZMAY94: NSWC Indian Head provided response/information on NAR 0291-94 and requested MCAGCC 29 Palms to ship the LAU-61C/A Rocket Launcher to NAWC Pt. Mugu (P2747) for an engineering investigation.

NSWC INDIAN HEAD 171546ZJAN95: Request to MCAS Yuma to ship one LAU-61C/A Launcher which had been used extensively during WTI 1-95 to NAWC Pt. Mugu.

NSWC INDIAN HEAD 20MAR95: Telephone call to NAWC Pt. Mugu indicated launcher had been received for Engineering Investigation.

NSWC INDIAN HEAD MEETING 24JUL95: Results of the investigation were discussed during a meeting with NAWC Pt. Mugu to review the status of the LAU-61C/A Launcher engineering investigation.

Pt. Mugu conducted an investigation on the following LAU-61C/A Rocket Launchers: Four Launchers with previous rocket firings from Lot HIR88A001-001A, one New launcher from Lot HIR88A001-001A, one New launcher from Lot HIR88J001-006, and one Launcher with previous rocket firings from a lot other than HIR88A001-001A and HIR88J001-006.

The condition of the launchers received at Pt. Mugu for investigation are as follows: Observed broken and unbonded detent assemblies in the four used launchers from Lot HIR88A001-001A. The two new launchers were in excellent condition. The one used launcher not drawn from either of the two problem lots was in good condition.

Engineering investigation procedures are: Removed the outer skin off the launchers. Removed the retaining straps enveloping the tube cluster assemblies. Determined if the tube cluster assemblies remain bonded without support of the straps.

After disassembling the launchers, Pt. Mugu observed the following: The tube cluster assemblies of the four previously used launchers from Lot HIR88A001-001A fell apart on their own weight after the straps were removed. The tube cluster assemblies from the two new launchers remained together after removal of the straps. The tube

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

cluster assembly of the launcher not drawn from either of the two problem lots was in excellent shape; the glue held on tight.

Chemical Analysis was conducted by NFESC, Port Hueneme as follows: Fourier Transform Infrared Spectroscopy -- No discernible difference was detected in the glue composition used in the bonding process of all the launchers tested.

X-Ray Fluorescence -- No discernible difference was detected in the metal composition of the aluminum launcher tubes tested. They were all manufactured the same.

Conclusions from Pt. Mugu Engineering Investigation are as follows: By process of elimination, it appeared that the glue is not bonding to the aluminum tubes because of the way the tubes were prepared. The glue itself and the aluminum tubes can be safely ruled out as causes for the problems experienced by the launchers in Lots HIR88A001-001A and HIR88J001-006.

NSWC INDIAN HEAD 14DEC95: Another meeting was held with Pt. Mugu to discuss additional results. At the request of Pt. Mugu, the Naval Facilities Engineering Service Center, Port Hueneme, conducted additional Fourier Transform Infrared Analysis on numerous rocket launcher tubes. The intent of the analysis was to determine the cause for the glue failure in Lots HIR88A001-001A and HIR88J001-006. The launchers were drawn from Lot HIR88A001-001A and HIR88J001-006 and a good lot. Both used and brand new launchers were used for the Fourier Transform Infrared. Possible causes of the glue failures were speculated to be one or more of the following: Different glues used in bad lots versus good lots, glue improperly cured or mixed in bad lots, poor metal surface preparation on the bad lot tubes, glue was applied at the wrong temperature, rocket launcher tubes from the two bad lots may have been prepared differently when the tubes were manufactured, or tube cluster assemblies from the two bad lots may have been exposed to weathering phenomena which the good lots were not exposed to. This could potentially cause the glue to degrade, the tubes to corrode, or simply cause the tubes to expand and contract, resulting in a loss of adhesion. A total of 13 rocket launcher tubes were used in the Fourier Transform Infrared Analysis. Metal exterior samples taken from 29 locations on the 13 rocket launcher tubes. The glue sample from each of the 13 tubes was taken from the middle of each tube. Based on the results of the Fourier Transform Infrared Analysis, several observations are: All major peaks in the glue spectra were at the same wave numbers and of the same general shape from tube to tube, indicating that the glue on all the tubes is the same glue formulation and that no obvious differences due to curing, weathering, etc. have occurred between tubes, new versus old or good versus bad. The peak at approximately

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 15125

(Continued)

2087 cm-1 showed up weakly in some of the glue spectra, but not in others. There does not seem to be a trend between good versus bad or new versus old tubes for this peak. It appeared to be a residue peak from a material on the metal surface of the tubes, and not from the glue itself. The 2087 cm-1 peak in the metal spectra was quite strong, with the exception of one tube from the good lot. The material may be some type of primer used to prepare the metal surfaces for bonding with the glue. The broad peak at approximately 3365 cm-1 appears to increase and decrease in direct proportion to the intensity of the 2087 cm-1 peak, indicating that it could belong to the same material. Unfortunately, there does not appear to be a trend for the peak 2087 cm-1 between the good and bad lots. All of the metal spectra showed hydrocarbon peaks at three spectra levels. Hydrocarbons make up part of the structure of many different organic compounds. They could be from the same material that is producing the 2087 cm-1 peak or they could simply be from dirt, grease, or oil on the surface of the tubes. There does not appear to be a trend for the hydrocarbon peaks for good versus bad, or new versus used tubes. In Pt. Mugu's discussions about the rubber adhesive used on the LAU-61C/A Launchers, numerous possibilities about the failure of the adhesive were examined: Poor metal surface preparation, glue application technique, and weathering or other atmospheric effects on the tubes after assembly. Pt. Mugu came to the conclusion that it is difficult to pinpoint the problem since so much time has elapsed from the time the tube clusters were assembled.

NSWC INDIAN HEAD MEMO 8042 SER 5720H/702 04JAN96: Request to Indian Head AD&C to requisition four each new (unfired) LAU-61C/A Launchers from Lot HIR88A001-001A and HIR88J001-006 from the NOC IMSD Inventory Manager for further disassembly and evaluation at Pt. Mugu.

NSWC INDIAN HEAD 20MAR96: Telephone call to NAWC Pt. Mugu to confirm receipt of the four each new (unfired) launchers. Pt. Mugu indicated the launchers had been received for Engineering Investigation.

NSWC INDIAN HEAD 19JUN96: During a meeting with NAWC Pt. Mugu to review additional test results on the eight launchers received in March for the investigation, the following was revealed: Prior to disassembling the eight launchers, Pt. Mugu observed one of the launchers from Lot HIR88A001-001A had a big dent on the skin. All of the shock pans on launchers from Lot HIR88J001-006 were not locked properly, thereby making unloading them from the pallet difficult. The tube cluster assemblies for all eight launchers were completely separated from the rest of the launchers. With the exception of the launcher with the dent, all seven other tube cluster assemblies were in excellent condition. The tubes were held together tightly by the glue. Two of the tubes in the launcher with the dent fell off as

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

the tube cluster assembly was being moved. The other tubes were held on tightly by the glue. It was noticed that some of the tube cluster assemblies had more glue than others, but this appeared to be a nonfactor. Pt. Mugu has identified a possible glue replacement for the one currently specified in the drawing; this would be for possible use in any future procurements. High performance two-part epoxy adhesives DP-460 or DP-420 are specifically designed for metal to metal bonding, whereas the current rubber adhesive called out in the TDP is used for plastics, rubber and other applications. DP-460 and DP-420 are made by 3M Corporation in Minnesota. Examined high performance contact Adhesive 1357, which is currently used by the Canadians in their 2.75-Inch Rocket Launchers; this adhesive also is not designed for use in metal to metal bonding even though the Canadians do not appear to have any problem with their launchers falling apart. The Indian Head and Pt. Mugu representatives agreed that the overall Engineering Investigation results were inconclusive and the failures experienced to date were random occurrences. It was recommended that these two lots be reclassified to Condition Code "B" and restricted to single fire use only.

The following two actions were assigned to Indian Head: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only. Contact Fleet users for potential impact regarding possible reclassification of these two lots to Condition Code "B".

NAWC PT MUGU LETTER 8150 SER 473310E/A-1138 OF 8APR97: Issued a report on the investigation of the incidents. After examining and evaluating the data gathered, the following actions were recommended: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only. Emphasize the importance to ordnance personnel of following the preloading and post-loading procedures for the launchers specified in the technical manual. Any launcher with broken detents, wires, hanging out, and/or tubes slipping in the tube cluster assembly should be reclassified to Condition Code "H" and withdrawn from further use. Replace the glue currently specified in the launcher technical data package with one which is better suited for aluminum bonding applications.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD/5720	INVESTIGATE	30SEP95	OPEN

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	MALS-14 MESSAGE 180710ZFEB94	REPORTED PQDR 1 M09114-94-0010
	NSWC INDIAN HEAD/5720 MESSAGE 181446ZFEB94	REQUEST FOR NAR
	NOC MECHANICSBURG/IMSD MESSAGE 021930ZMAR94	NAR 0291-94
	NSWC INDIAN HEAD/5720 MESSAGE 031546ZMAR94	SHIPMENT OF CONDITION CODE "A" LAUNCHERS
	NSWC INDIAN HEAD/5720 MESSAGE 061546ZMAY94	PROVIDED RESP/INFO FOR PQDR 1 94-0010
	NSWC INDIAN HEAD/5720 MESSAGE 171546ZJAN95	REQ SHIPMENT OF LAUNCHER FROM MCAS YUMA
	NSWC INDIAN HEAD/5720 TELCON 20MAR95	INDICATED ADDITIONAL LCHER REC FOR EI
	NSWC INDIAN HEAD/5720 MEETING 24JUL95	REVIEW OF STATUS OF LAU-61C/A LAUNCHER
	NSWC INDIAN HEAD/5720 MEETING 14DEC95	REVIEW OF ADDITIONAL TEST RESULTS
	NSWC INDIAN HEAD/5720 MEMO 04JAN96	REQ FOR 4 LNCHERS FROM EACH OF 2 LOTS
	NSWC INDIAN HEAD/5720 TELCON 20MAR96	CONFIRM RECEIPT OF 8 UNFIRED LNCHERS
	NSWC INDIAN HEAD/5720 MEETING 19JUN96	REVIEW ADDITIONAL TEST RESULTS
	NAWC PT MUGU LETTER 08APR97	REPORT ON INVESTIGATION

**ACTION : HMLA-167 CODR M09898-94-0002 11FEB94 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>S/N:</b> HIR88A001-001A			
<b>FAILED PART:</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>S/N:</b> HIR88A001-001A			

**DESCRIPTION:**

HMLA-167 111225ZFEB94: AH-1W Aircraft was loaded with one LAU-61C/A Rocket Launcher. Upon postflight inspection, the ground crew discovered that a blast paddle on Tube Seven had broken loose and was found protruding half an inch from the end of the rocket launcher.

**ACTION TAKEN:**

NSWC INDIAN HEAD 181446ZFEB94: Request for Notice of Ammunition Reclassification.

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

NOC IMSD MECHANICSBURG 021930ZMAR94: Notice of Ammunition Reclassification 0291-94 reclassified LAU-61C/A Rocket Launcher Lot HIR88A001-001A to Condition Code "Juliet".

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**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

lots was in excellent shape; the glue held on tight. Chemical Analysis was conducted by NFESC, Port Hueneme as follows: Fourier Transform Infrared Spectroscopy -- No discernible difference was detected in the glue composition used in the bonding process of all the launchers tested. X-Ray Fluorescence -- No discernible difference was detected in the metal composition of the aluminum launcher tubes tested. They were all manufactured the same.

Conclusions from Pt. Mugu Engineering Investigation are as follows: By process of elimination, it appeared that the glue is not bonding to the aluminum tubes because of the way the tubes were prepared. The glue itself and the aluminum tubes can be safely ruled out as causes for the problems experienced by the launchers in Lots HIR88A001-001A and HIR88J001-006.

NSWC INDIAN HEAD 14DEC95: Another meeting was held with Pt. Mugu to discuss additional results. At the request of Pt. Mugu, the Naval Facilities Engineering Service Center, Port Hueneme, conducted additional Fourier Transform Infrared Analysis on numerous rocket launcher tubes. The intent of the analysis was to determine the cause for the glue failure in Lots HIR88A001-001A and HIR88J001-006. The launchers were drawn from Lot HIR88A001-001A and HIR88J001-006 and a good lot. Both used and brand new launchers were used for the Fourier Transform Infrared. Possible causes of the glue failures were speculated to be one or more of the following: Different glues used in bad lots versus good lots, glue improperly cured or mixed in bad lots, poor metal surface preparation on the bad lot tubes, glue was applied at the wrong temperature, rocket launcher tubes from the two bad lots may have been prepared differently when the tubes were manufactured, or tube cluster assemblies from the two bad lots may have been exposed to weathering phenomena which the good lots were not exposed to. This could potentially cause the glue to degrade, the tubes to corrode, or simply cause the tubes to expand and contract, resulting in a loss of adhesion. A total of 13 rocket launcher tubes were used in the Fourier Transform Infrared Analysis. Metal exterior samples taken from 29 locations on the 13 rocket launcher tubes. The glue sample from each of the 13 tubes was taken from the middle of each tube. Based on the results of the Fourier Transform Infrared Analysis, several observations are: All major peaks in the glue spectra were at the same wave numbers and of the same general shape from tube to tube, indicating that the glue on all the tubes is the same glue formulation and that no obvious differences due to curing, weathering, etc. have occurred between tubes, new versus old or good versus bad. The peak at approximately 2087 cm<sup>-1</sup> showed up weakly in some of the glue spectra, but not in others. There does not seem to be a trend between good versus bad or new versus old tubes for this peak. It appeared to be a residue peak from a material on the metal surface of the tubes, and not from the

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

glue itself. The 2087 cm-1 peak in the metal spectra was quite strong, with the exception of one tube from the good lot. The material may be some type of primer used to prepare the metal surfaces for bonding with the glue. The broad peak at approximately 3365 cm-1 appears to increase and decrease in direct proportion to the intensity of the 2087 cm-1 peak, indicating that it could belong to the same material. Unfortunately, there does not appear to be a trend for the peak 2087 cm-1 between the good and bad lots. All of the metal spectra showed hydrocarbon peaks at three spectra levels. Hydrocarbons make up part of the structure of many different organic compounds. They could be from the same material that is producing the 2087 cm-1 peak or they could simply be from dirt, grease, or oil on the surface of the tubes. There does not appear to be a trend for the hydrocarbon peaks for good versus bad, or new versus used tubes. In Pt. Mugu's discussions about the rubber adhesive used on the LAU-61C/A Launchers, numerous possibilities about the failure of the adhesive were examined: Poor metal surface preparation, glue application technique, and weathering or other atmospheric effects on the tubes after assembly. Pt. Mugu came to the conclusion that it is difficult to pinpoint the problem since so much time has elapsed from the time the tube clusters were assembled.

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30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

identified a possible glue replacement for the one currently specified in the drawing; this would be for possible use in any future procurements. High performance two-part epoxy adhesives DP-460 or DP-420 are specifically designed for metal to metal bonding, whereas the current rubber adhesive called out in the TDP is used for plastics, rubber and other applications. DP-460 and DP-420 are made by 3M Corporation in Minnesota. Examined high performance contact Adhesive 1357, which is currently used by the Canadians in their 2.75-Inch Rocket Launchers; this adhesive also is not designed for use in metal to metal bonding even though the Canadians do not appear to have any problem with their launchers falling apart. The Indian Head and Pt. Mugu representatives agreed that the overall investigation results were inconclusive and the failures experienced to date were random occurrences. It was recommended that these two lots be reclassified to Condition Code "B" and restricted to single fire use only.

The following two actions were assigned to Indian Head: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only and contact Fleet users for potential impact regarding possible reclassification of these two lots to Condition Code "B".

NAWC PT MUGU LETTER 8150 SER 473310E/A-1138 OF 8APR97: Issued a report on the investigation of the incidents. After examining and evaluating the data gathered, the following actions were recommended: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only. Emphasize the importance to ordnance personnel of following the preloading and post-loading procedures for the launchers specified in the technical manual. Any launcher with broken detents, wires, hanging out, and/or tubes slipping in the tube cluster assembly should be reclassified to Condition Code "H" and withdrawn from further use. Replace the glue currently specified in the launcher technical data package with one which is better suited for aluminum bonding applications.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD/5720	INVESTIGATE	30SEP95	OPEN

  

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		HMLA-167 MESSAGE 111225ZFEB94	REPORTED CODR 94-0002
		NSWC INDIAN HEAD/5720 MESSAGE 181446ZFEB94	REQUEST FOR NAR
		NOC MECHANICSBURG/IMSD MESSAGE 021930ZMAR94	NAR 0291-94

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

**REFERENCES : IDENTIFICATION**

NSWC INDIAN HEAD/5720 MESSAGE  
031546ZMAR94  
NSWC INDIAN HEAD/5720 MESSAGE  
061546ZMAY94  
NSWC INDIAN HEAD/5720 MESSAGE  
171546ZJAN95  
NSWC INDIAN HEAD/5720 TELCON 20MAR95  
  
NSWC INDIAN HEAD/5720 MEETING 24JUL95  
NSWC INDIAN HEAD/5720 MEETING 14DEC95  
NSWC INDIAN HEAD/5720 MEMO 04JAN96  
NSWC INDIAN HEAD/5720 TELCON 20MAR96  
NSWC INDIAN HEAD/5720 MEETING 19JUN96  
NAWC PT MUGU LETTER 08APR97

**REFERENCE BRIEF**

SHIPMENT OF CONDITION CODE  
"A" LAUNCHERS  
PROVIDED RESPONSE/INFO FOR  
CODR 94-0002  
REQ SHIPMENT OF LAUNCHER  
FROM MCAS YUMA  
INDICATED ADDITIONAL LNCHR  
REC'D FOR EI  
REVIEW STATUS OF LAU-61C/A  
LAUNCHER  
REVIEW OF ADDITIONAL TEST  
RESULTS  
REQ FOR 4 LNCHERS FROM EACH  
OF 2 LOTS  
CONFIRM RAECEIPT OF 8  
UNFIRED LNCHERS  
REVIEW ADDITIONAL TEST  
RESULTS  
REPORT ON INVESTIGATION

**ACTION : VMA-231 CODR M52948-94-0003 31JAN94 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>S/N:</b> UNKNOWN			
	<b>LOT:</b> HIR88A001-001A			
<b>FAILED PART:</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>LOT:</b> HIR88A001-001A			

**DESCRIPTION:**

VMA-231 312000ZJAN94: AV-8B Aircraft was loaded with one LAU-61C/A Rocket Launcher. Upon postflight inspection, the ground crew discovered that a blast paddle on one tube had broken loose.

**ACTION TAKEN:**

NSWC INDIAN HEAD 181446ZFEB94: Request for Notice of Ammunition Reclassification.

NOC IMSD MECHANICSBURG 021930ZMAR94: Notice of Ammunition Reclassification 0291-94 reclassified LAU-61C/A Rocket Launcher Lot HIR88A001-001A to Condition Code "Juliet".

NSWC INDIAN HEAD 031546ZMAR94: Request to ship two Condition Code "A" LAU-61C/A Rocket Launchers (one from Lot HIR88A001-001A and one from Lot HIR88J001-006) to NAWC Pt Mugu, CA for an engineering

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

investigation.

NSWC INDIAN HEAD 061546ZMAY94: NSWC Indian Head provided response/information on NAR 0291-94 and requested MCAGCC 29 Palms to ship the LAU-61C/A Rocket Launcher to NAWC Pt. Mugu (P2747) for an engineering investigation.

NSWC INDIAN HEAD 171546ZJAN95: Request to MCAS Yuma to ship one LAU-61C/A Launcher which had been used extensively during WTI 1-95 to NAWC Pt. Mugu.

NSWC INDIAN HEAD 20MAR95: Telephone call to NAWC Pt. Mugu indicated launcher had been received for Engineering Investigation.

NSWC INDIAN HEAD 24JUL95: Results of the investigation were discussed during a meeting with NAWC Pt. Mugu to review the status of the LAU-61C/A Launcher engineering investigation.

Pt. Mugu conducted an Engineering Investigation on the following LAU-61C/A Rocket Launchers: Four Launchers with previous rocket firings from Lot HIR88A001-001A, one New launcher from Lot HIR88A001-001A, one New launcher from Lot HIR88J001-006, and one Launcher with previous rocket firings from a lot other than HIR88A001-001A and HIR88J001-006.

The condition of the launchers received at Pt. Mugu for Engineering Investigation are as follows: Observed broken and unbonded detent assemblies in the four used launchers from Lot HIR88A001-001A. The two new launchers were in excellent condition. The one used launcher not drawn from either of the two problem lots was in good condition.

Engineering investigation procedures are: Removed the outer skin off the launchers. Removed the retaining straps enveloping the tube cluster assemblies. Determined if the tube cluster assemblies remain bonded without support of the straps. After disassembling the launchers, Pt. Mugu observed the following: The tube cluster assemblies of the four previously used launchers from Lot HIR88A001-001A fell apart on their own weight after the straps were removed. The tube cluster assemblies from the two new launchers remained together after removal of the straps. The tube cluster assembly of the launcher not drawn from either of the two problem lots was in excellent shape; the glue held on tight. Chemical Analysis was conducted by NFESC, Port Hueneme as follows: Fourier Transform Infrared Spectroscopy -- No discernible difference was detected in the glue composition used in the bonding process of all the launchers tested. X-Ray Fluorescence -- No discernible difference was detected in the metal composition of the aluminum launcher tubes tested. They were all manufactured the same.

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125****(Continued)**

Conclusions from Pt. Mugu Engineering Investigation are as follows: By process of elimination, it appeared that the glue is not bonding to the aluminum tubes because of the way the tubes were prepared. The glue itself and the aluminum tubes can be safely ruled out as causes for the problems experienced by the launchers in Lots HIR88A001-001A and HIR88J001-006.

NSWC INDIAN HEAD 14DEC95: Another meeting was held with Pt. Mugu to discuss additional results. At the request of Pt. Mugu, the Naval Facilities Engineering Service Center, Port Hueneme, conducted additional Fourier Transform Infrared Analysis on numerous rocket launcher tubes. The intent of the analysis was to determine the cause for the glue failure in Lots HIR88A001-001A and HIR88J001-006. The launchers were drawn from Lot HIR88A001-001A and HIR88J001-006 and a good lot. Both used and brand new launchers were used for the Fourier Transform Infrared. Possible causes of the glue failures were speculated to be one or more of the following: Different glues used in bad lots versus good lots, glue improperly cured or mixed in bad lots, poor metal surface preparation on the bad lot tubes, glue was applied at the wrong temperature, rocket launcher tubes from the two bad lots may have been prepared differently when the tubes were manufactured, or tube cluster assemblies from the two bad lots may have been exposed to weathering phenomena which the good lots were not exposed to. This could potentially cause the glue to degrade, the tubes to corrode, or simply cause the tubes to expand and contract, resulting in a loss of adhesion. A total of 13 rocket launcher tubes were used in the Fourier Transform Infrared Analysis. Metal exterior samples taken from 29 locations on the 13 rocket launcher tubes. The glue sample from each of the 13 tubes was taken from the middle of each tube. Based on the results of the Fourier Transform Infrared Analysis, several observations are: All major peaks in the glue spectra were at the same wave numbers and of the same general shape from tube to tube, indicating that the glue on all the tubes is the same glue formulation and that no obvious differences due to curing, weathering, etc. have occurred between tubes, new versus old or good versus bad. The peak at approximately 2087 cm-1 showed up weakly in some of the glue spectra, but not in others. There does not seem to be a trend between good versus bad or new versus old tubes for this peak. It appeared to be a residue peak from a material on the metal surface of the tubes, and not from the glue itself. The 2087 cm-1 peak in the metal spectra was quite strong, with the exception of one tube from the good lot. The material may be some type of primer used to prepare the metal surfaces for bonding with the glue. The broad peak at approximately 3365 cm-1 appears to increase and decrease in direct proportion to the intensity of the 2087 cm-1 peak, indicating that it could belong to the same material. Unfortunately, there does not appear to be a trend for the peak 2087 cm-1 between the good and bad lots. All of

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 15125

(Continued)

the metal spectra showed hydrocarbon peaks at three spectra levels. Hydrocarbons make up part of the structure of many different organic compounds. They could be from the same material that is producing the 2087 cm-1 peak or they could simply be from dirt, grease, or oil on the surface of the tubes. There does not appear to be a trend for the hydrocarbon peaks for good versus bad, or new versus used tubes. In Pt. Mugu's discussions about the rubber adhesive used on the LAU-61C/A Launchers, numerous possibilities about the failure of the adhesive were examined: Poor metal surface preparation, glue application technique, and weathering or other atmospheric effects on the tubes after assembly. Pt. Mugu came to the conclusion that it is difficult to pinpoint the problem since so much time has elapsed from the time the tube clusters were assembled.

NSWC INDIAN HEAD MEMO 8042 SER 5720H/702 04JAN96: Request to Indian Head AD&C to requisition four each new (unfired) LAU-61C/A Launchers from Lot HIR88A001-001A and HIR88J001-006 from the NOC IMSD Inventory Manager for further disassembly and evaluation at Pt. Mugu.

NSWC INDIAN HEAD 20MAR96: Telephone call to NAWC Pt. Mugu to confirm receipt of the four each new (unfired) launchers. Pt. Mugu indicated the launchers had been received for Engineering Investigation.

NSWC INDIAN HEAD 19JUN96: During a meeting with NAWC Pt. Mugu to review additional test results on the eight launchers received in March for the Engineering Investigation, the following was revealed: Prior to disassembling the eight launchers, Pt. Mugu observed the following: One of the launchers from Lot HIR88A001-001A had a big dent on the skin. All of the shock pans on launchers from Lot HIR88J001-006 were not locked properly, thereby making unloading them from the pallet difficult. The tube cluster assemblies for all eight launchers were completely separated from the rest of the launchers. With the exception of the launcher with the dent, all seven other tube cluster assemblies were in excellent condition. The tubes were held together tightly by the glue. Two of the tubes in the launcher with the dent fell off as the tube cluster assembly was being moved. The other tubes were held on tightly by the glue. It was noticed that some of the tube cluster assemblies had more glue than others, but this appeared to be a nonfactor. Pt. Mugu has identified a possible glue replacement for the one currently specified in the drawing; this would be for possible use in any future procurements. High performance two-part epoxy adhesives DP-460 or DP-420 are specifically designed for metal to metal bonding, whereas the current rubber adhesive called out in the TDP is used for plastics, rubber and other applications. DP-460 and DP-420 are made by 3M Corporation in Minnesota. Examined high performance contact Adhesive 1357, which is currently used by the

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

Canadians in their 2.75-Inch Rocket Launchers; this adhesive also is not designed for use in metal to metal bonding even though the Canadians do not appear to have any problem with their launchers falling apart. The Indian Head and Pt. Mugu representatives agreed that the overall investigation results were inconclusive and the failures experienced to date were random occurrences. It was recommended that these two lots be reclassified to Condition Code "B" and restricted to single fire use only.

The following two actions were assigned to Indian Head: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only and contact Fleet users for potential impact regarding possible reclassification of these two lots to Condition Code "B".

NAWC PT MUGU LETTER 8150 SER 473310E/A-1138 OF 8APR97: Issued a report on the investigation of the incidents. After examining and evaluating the data gathered, the following actions were recommended: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only. Emphasize the importance to ordnance personnel of following the preloading and post-loading procedures for the launchers specified in the technical manual. Any launcher with broken detents, wires, hanging out, and/or tubes slipping in the tube cluster assembly should be reclassified to Condition Code "H" and withdrawn from further use. Replace the glue currently specified in the launcher technical data package with one which is better suited for aluminum bonding applications.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD/5720	INVESTIGATE	30SEP95	OPEN

  

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		VMA-231 MESSAGE 312000ZJAN94	REPORT CODR 94-0003
		NSWC INDIAN HEAD/5720 MESSAGE 181446ZFEB94	REQUEST FOR NAR
		NOC MECHANICSBURG/IMSD MESSAGE 021930ZMAR94	NAR 0291-94
		NSWC INDIAN HEAD/5720 MESSAGE 031546ZMAR94	SHIPMENT OF CONDITION CODE "A" LAUNCHERS
		NSWC INDIAN HEAD/5720 MESSAGE 061546ZMAY94	PROVIDED RESPONSE/INFO FOR CODR 94-0003
		NSWC INDIAN HEAD/5720 MESSAGE 171546ZJAN95	REQ SHIPMENT OF LAUNCHER FROM MCAS YUMA
		NSWC INDIAN HEAD/5720 TELCON 20MAR95	INDICATED ADDITION LNCHR REC'D FOR EI



30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	NSWC INDIAN HEAD/5720 MEETING 24JUL95	REVIEW OF STATUS OF LAU-61C/A LAUNCHER
	NSWC INDIAN HEAD/5720 MEETING 14DEC95	REVIEW OF ADDITIONAL TEST RESULTS
	NSWC INDIAN HEAD/5720 MEMO 04JAN96	REQ FOR 4 LNCHERS FROM EACH OF 2 LOTS
	NSWC INDIAN HEAD/5720 TELCON 20MAR96	CONFIRM RECEIPT OF 8 UNFIRED LNCHERS
	NSWC INDIAN HEAD/5720 MEETING 19JUN96	REVIEW ADDITIONAL TEST RESULTS
	NAWC PT MUGU LETTER 08APR97	REPORT ON INVESTIGATION

**ACTION : VMFA-451                      CODR              M09238-93-0017              10JUN93 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>S/N:</b> UNKNOWN			
	<b>LOT:</b> HIR88J001-006			
<b>FAILED PART:</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>LOT:</b> HIR88J001-006			

**DESCRIPTION:**

VMFA-451 101700ZJUN93: F/A-18 Aircraft was loaded with two LAU-61C/A Launchers. Upon return to the flight line after completing the mission, ground crew noticed wires hanging out of the aft end of three launchers. Further investigation revealed two launchers with locking levers missing on tubes 10 and 18 and one launcher with locking lever missing on tube.

**ACTION TAKEN:**

NSWC INDIAN HEAD 181446ZFEB94: Request for Notice of Ammunition Reclassification.

NOC IMSD MECHANICSBURG 021930ZMAR94: Notice of Ammunition Reclassification 0291-94 reclassified LAU-61C/A Rocket Launcher Lot HIR88A001-001A to Condition Code "Juliet".

NSWC INDIAN HEAD 031546ZMAR94: Request to ship two Condition Code "A" LAU-61C/A Rocket Launchers (one from Lot HIR88A001-001A and one from Lot HIR88J001-006) to NAWC Pt Mugu, CA for an engineering investigation.

NSWC INDIAN HEAD 061546ZMAY94: NSWC Indian Head provided response/information on NAR 0291-94 and requested MCAGCC 29 Palms to ship the LAU-61C/A Rocket Launcher to NAWC Pt. Mugu (P2747) for an

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

engineering investigation.

NSWC INDIAN HEAD 171546ZJAN95: Request to MCAS Yuma to ship one LAU-61C/A Launcher which had been used extensively during WTI 1-95 to NAWC Pt. Mugu.

NSWC INDIAN HEAD 20MAR95: Telephone call to NAWC Pt. Mugu indicated launcher had been received for Engineering Investigation.

NSWC INDIAN HEAD 24JUL95: Results of the investigation were discussed during a meeting with NAWC Pt. Mugu to review the status of the LAU-61C/A Launcher engineering investigation.

Pt. Mugu conducted an Engineering Investigation on the following LAU-61C/A Rocket Launchers: Four Launchers with previous rocket firings from Lot HIR88A001-001A, one New launcher from Lot HIR88A001-001A, one New launcher from Lot HIR88J001-006, and one Launcher with previous rocket firings from a lot other than HIR88A001-001A and HIR88J001-006.

The condition of the launchers received at Pt. Mugu for Engineering Investigation are as follows: Observed broken and unbonded detent assemblies in the four used launchers from Lot HIR88A001-001A. The two new launchers were in excellent condition. The one used launcher not drawn from either of the two problem lots was in good condition.

Engineering investigation procedures are: Removed the outer skin off the launchers. Removed the retaining straps enveloping the tube cluster assemblies. Determined if the tube cluster assemblies remain bonded without support of the straps. After disassembling the launchers, Pt. Mugu observed the following: The tube cluster assemblies of the four previously used launchers from Lot HIR88A001-001A fell apart on their own weight after the straps were removed. The tube cluster assemblies from the two new launchers remained together after removal of the straps. The tube cluster assembly of the launcher not drawn from either of the two problem lots was in excellent shape; the glue held on tight. Chemical Analysis was conducted by NFESC, Port Hueneme as follows: Fourier Transform Infrared Spectroscopy -- No discernible difference was detected in the glue composition used in the bonding process of all the launchers tested. X-Ray Fluorescence -- No discernible difference was detected in the metal composition of the aluminum launcher tubes tested. They were all manufactured the same.

Conclusions from Pt. Mugu Engineering Investigation are as follows: By process of elimination, it appeared that the glue is not bonding to the aluminum tubes because of the way the tubes were prepared. The glue itself and the aluminum tubes can be safely ruled out as

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

causes for the problems experienced by the launchers in Lots HIR88A001-001A and HIR88J001-006.

NSWC INDIAN HEAD 14DEC95: Another meeting was held with Pt. Mugu to discuss additional results. At the request of Pt. Mugu, the Naval Facilities Engineering Service Center, Port Hueneme, conducted additional Fourier Transform Infrared Analysis on numerous rocket launcher tubes. The intent of the analysis was to determine the cause for the glue failure in Lots HIR88A001-001A and HIR88J001-006. The launchers were drawn from Lot HIR88A001-001A and HIR88J001-006 and a good lot. Both used and brand new launchers were used for the Fourier Transform Infrared. Possible causes of the glue failures were speculated to be one or more of the following: Different glues used in bad lots versus good lots, glue improperly cured or mixed in bad lots, poor metal surface preparation on the bad lot tubes, glue was applied at the wrong temperature, rocket launcher tubes from the two bad lots may have been prepared differently when the tubes were manufactured, or tube cluster assemblies from the two bad lots may have been exposed to weathering phenomena which the good lots were not exposed to. This could potentially cause the glue to degrade, the tubes to corrode, or simply cause the tubes to expand and contract, resulting in a loss of adhesion. A total of 13 rocket launcher tubes were used in the Fourier Transform Infrared Analysis. Metal exterior samples taken from 29 locations on the 13 rocket launcher tubes. The glue sample from each of the 13 tubes was taken from the middle of each tube. Based on the results of the Fourier Transform Infrared Analysis, several observations are: All major peaks in the glue spectra were at the same wave numbers and of the same general shape from tube to tube, indicating that the glue on all the tubes is the same glue formulation and that no obvious differences due to curing, weathering, etc. have occurred between tubes, new versus old or good versus bad. The peak at approximately 2087 cm-1 showed up weakly in some of the glue spectra, but not in others. There does not seem to be a trend between good versus bad or new versus old tubes for this peak. It appeared to be a residue peak from a material on the metal surface of the tubes, and not from the glue itself. The 2087 cm-1 peak in the metal spectra was quite strong, with the exception of one tube from the good lot. The material may be some type of primer used to prepare the metal surfaces for bonding with the glue. The broad peak at approximately 3365 cm-1 appears to increase and decrease in direct proportion to the intensity of the 2087 cm-1 peak, indicating that it could belong to the same material. Unfortunately, there does not appear to be a trend for the peak 2087 cm-1 between the good and bad lots. All of the metal spectra showed hydrocarbon peaks at three spectra levels. Hydrocarbons make up part of the structure of many different organic compounds. They could be from the same material that is producing the 2087 cm-1 peak or they could simply be from dirt, grease, or oil

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

on the surface of the tubes. There does not appear to be a trend for the hydrocarbon peaks for good versus bad, or new versus used tubes. In Pt. Mugu's discussions about the rubber adhesive used on the LAU-61C/A Launchers, numerous possibilities about the failure of the adhesive were examined: Poor metal surface preparation, glue application technique, and weathering or other atmospheric effects on the tubes after assembly. Pt. Mugu came to the conclusion that it is difficult to pinpoint the problem since so much time has elapsed from the time the tube clusters were assembled.

NSWC INDIAN HEAD MEMO 8042 SER 5720H/702 04JAN96: Request to Indian Head AD&C to requisition four each new (unfired) LAU-61C/A Launchers from Lot HIR88A001-001A and HIR88J001-006 from the NOC IMSD Inventory Manager for further disassembly and evaluation at Pt. Mugu.

NSWC INDIAN HEAD 20MAR96: Telephone call to NAWC Pt. Mugu to confirm receipt of the four each new (unfired) launchers. Pt. Mugu indicated the launchers had been received for Engineering Investigation.

NSWC INDIAN HEAD 19JUN96: During a meeting with NAWC Pt. Mugu to review additional test results on the eight launchers received in March for the Engineering Investigation, the following was revealed: Prior to disassembling the eight launchers, Pt. Mugu observed the following: One of the launchers from Lot HIR88A001-001A had a big dent on the skin. All of the shock pans on launchers from Lot HIR88J001-006 were not locked properly, thereby making unloading them from the pallet difficult. The tube cluster assemblies for all eight launchers were completely separated from the rest of the launchers. With the exception of the launcher with the dent, all seven other tube cluster assemblies were in excellent condition. The tubes were held together tightly by the glue. Two of the tubes in the launcher with the dent fell off as the tube cluster assembly was being moved. The other tubes were held on tightly by the glue. It was noticed that some of the tube cluster assemblies had more glue than others, but this appeared to be a nonfactor. Pt. Mugu has identified a possible glue replacement for the one currently specified in the drawing; this would be for possible use in any future procurements. High performance two-part epoxy adhesives DP-460 or DP-420 are specifically designed for metal to metal bonding, whereas the current rubber adhesive called out in the TDP is used for plastics, rubber and other applications. DP-460 and DP-420 are made by 3M Corporation in Minnesota. Examined high performance contact Adhesive 1357, which is currently used by the Canadians in their 2.75-Inch Rocket Launchers; this adhesive also is not designed for use in metal to metal bonding even though the Canadians do not appear to have any problem with their launchers falling apart. The Indian Head and Pt. Mugu representatives agreed

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

that the overall investigation results were inconclusive and the failures experienced to date were random occurrences. It was recommended that these two lots be reclassified to Condition Code "B" and restricted to single fire use only.

The following two actions were assigned to Indian Head: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only and contact Fleet users for potential impact regarding possible reclassification of these two lots to Condition Code "B".

NAWC PT MUGU LETTER 8150 SER 473310E/A-1138 OF 8APR97: Issued a report on the investigation of the incidents. After examining and evaluating the data gathered, the following actions were recommended: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only. Emphasize the importance to ordnance personnel of following the preloading and post-loading procedures for the launchers specified in the technical manual. Any launcher with broken detents, wires, hanging out, and/or tubes slipping in the tube cluster assembly should be reclassified to Condition Code "H" and withdrawn from further use. Replace the glue currently specified in the launcher technical data package with one which is better suited for aluminum bonding applications.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD/5720	INVESTIGATE	30SEP95 OPEN
<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>	
	VMFA-451 MESSAGE 101700ZJUN93	REPORTED CODR 93-0017	
	NSWC INDIAN HEAD MESSAGE 211546ZJUN93	RESPONSE TO CODR 93-0017	
	NSWC INDIAN HEAD MESSAGE 291546ZSEP93	RESPONSE/ACTION FOR CODR 93-0017	
	NSWC INDIAN HEAD MESSAGE 181446ZFEB94	REQUEST FOR NAR	
	NOC MECHANICSBURG/IMSD MESSAGE 021930ZMAR94	NAR 0292-94 RECL HIR88J001-006 TO CC "J"	
	NSWC INDIAN HEAD/5720 MESSAGE 171546ZJAN95	REQ SHIPMENT OF LAUNCHER FROM MCAS YUMA	
	NSWC INDIAN HEAD/5720 TELCON 20MAR95	INDICATED ADDITIONAL LNCHR REC'D FOR EI	
	NSWC INDIAN HEAD/5720 MEETING 24JUL95	REVIEW OF STATUS OF LAU-61C/A LAUNCHER	
	NSWC INDIAN HEAD/5720 MEETING 14DEC95	REVIEW OF ADDITIONAL TEST RESULTS	
	NSWC INDIAN HEAD/5720 MEMO 04JAN96	REQ FOR 4 LNCHERS FROM EACH OF 2 LOTS	

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	NSWC INDIAN HEAD/5720 TELCON 20MAR96	CONFIRM RECEIPT OF 8 UNFIRED LNCHERS
	NSWC INDIAN HEAD/5720 MEETING 19JUN96	REVIEW ADDITIONAL TEST RESULTS
	NAWC PT MUGU LETTER 08APR97	REPORT ON INVESTIGATION

**ACTION : MAWTS-1 CODR M55167-93-0093 15APR93 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>S/N:</b> UNKNOWN			
	<b>LOT:</b> HIR88J001-006			
<b>FAILED PART:</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>LOT:</b> HIR88J001-006			

**DESCRIPTION:**

MAWTS-1 152131ZAPR93: Reported aircraft loaded with 19 2.75-Inch Rockets with inert warheads on Stations one and three and returned without incident. Upon postflight inspection of LAU-61C/A Rocket Launcher on Station three, launcher tubes 13 and 15 were revealed protruding approximately 3/16 to 1/2 inch to the rear and launcher tube 18 detent lock stuck in the extracted position. Rocket launcher was downloaded and marked awaiting Engineering Investigation). Launcher was turned in to MCAS Yuma Station Weapons.

**ACTION TAKEN:**

NSWC INDIAN HEAD 181446ZFEB94: Request for Notice of Ammunition Reclassification.

NOC IMSD MECHANICSBURG 021930ZMAR94: Notice of Ammunition Reclassification 0291-94 reclassified LAU-61C/A Rocket Launcher Lot HIR88A001-001A to Condition Code "Juliet".

NSWC INDIAN HEAD 031546ZMAR94: Request to ship two Condition Code "A" LAU-61C/A Rocket Launchers (one from Lot HIR88A001-001A and one from Lot HIR88J001-006) to NAWC Pt Mugu, CA for an engineering investigation.

NSWC INDIAN HEAD 061546ZMAY94: NSWC Indian Head provided response/information on NAR 0291-94 and requested MCAGCC 29 Palms to ship the LAU-61C/A Rocket Launcher to NAWC Pt. Mugu (P2747) for an engineering investigation.

NSWC INDIAN HEAD 171546ZJAN95: Request to MCAS Yuma to ship one LAU-61C/A Launcher which had been used extensively during WTI 1-95

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

to NAWC Pt. Mugu.

NSWC INDIAN HEAD 20MAR95: Telephone call to NAWC Pt. Mugu indicated launcher had been received for Engineering Investigation.

NSWC INDIAN HEAD 24JUL95: Results of the investigation were discussed during a meeting with NAWC Pt. Mugu to review the status of the LAU-61C/A Launcher engineering investigation.

Pt. Mugu conducted an Engineering Investigation on the following LAU-61C/A Rocket Launchers: Four Launchers with previous rocket firings from Lot HIR88A001-001A, one New launcher from Lot HIR88A001-001A, one New launcher from Lot HIR88J001-006, and one Launcher with previous rocket firings from a lot other than HIR88A001-001A and HIR88J001-006.

The condition of the launchers received at Pt. Mugu for Engineering Investigation are as follows: Observed broken and unbonded detent assemblies in the four used launchers from Lot HIR88A001-001A. The two new launchers were in excellent condition. The one used launcher not drawn from either of the two problem lots was in good condition.

Engineering investigation procedures are: Removed the outer skin off the launchers. Removed the retaining straps enveloping the tube cluster assemblies. Determined if the tube cluster assemblies remain bonded without support of the straps. After disassembling the launchers, Pt. Mugu observed the following: The tube cluster assemblies of the four previously used launchers from Lot HIR88A001-001A fell apart on their own weight after the straps were removed. The tube cluster assemblies from the two new launchers remained together after removal of the straps. The tube cluster assembly of the launcher not drawn from either of the two problem lots was in excellent shape; the glue held on tight. Chemical Analysis was conducted by NFESC, Port Hueneme as follows: Fourier Transform Infrared Spectroscopy -- No discernible difference was detected in the glue composition used in the bonding process of all the launchers tested. X-Ray Fluorescence -- No discernible difference was detected in the metal composition of the aluminum launcher tubes tested. They were all manufactured the same.

Conclusions from Pt. Mugu Engineering Investigation are as follows: By process of elimination, it appeared that the glue is not bonding to the aluminum tubes because of the way the tubes were prepared. The glue itself and the aluminum tubes can be safely ruled out as causes for the problems experienced by the launchers in Lots HIR88A001-001A and HIR88J001-006.

NSWC INDIAN HEAD 14DEC95: Another meeting was held with Pt. Mugu to

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125****(Continued)**

discuss additional results. At the request of Pt. Mugu, the Naval Facilities Engineering Service Center, Port Hueneme, conducted additional Fourier Transform Infrared Analysis on numerous rocket launcher tubes. The intent of the analysis was to determine the cause for the glue failure in Lots HIR88A001-001A and HIR88J001-006. The launchers were drawn from Lot HIR88A001-001A and HIR88J001-006 and a good lot. Both used and brand new launchers were used for the Fourier Transform Infrared. Possible causes of the glue failures were speculated to be one or more of the following: Different glues used in bad lots versus good lots, glue improperly cured or mixed in bad lots, poor metal surface preparation on the bad lot tubes, glue was applied at the wrong temperature, rocket launcher tubes from the two bad lots may have been prepared differently when the tubes were manufactured, or tube cluster assemblies from the two bad lots may have been exposed to weathering phenomena which the good lots were not exposed to. This could potentially cause the glue to degrade, the tubes to corrode, or simply cause the tubes to expand and contract, resulting in a loss of adhesion. A total of 13 rocket launcher tubes were used in the Fourier Transform Infrared Analysis. Metal exterior samples taken from 29 locations on the 13 rocket launcher tubes. The glue sample from each of the 13 tubes was taken from the middle of each tube. Based on the results of the Fourier Transform Infrared Analysis, several observations are: All major peaks in the glue spectra were at the same wave numbers and of the same general shape from tube to tube, indicating that the glue on all the tubes is the same glue formulation and that no obvious differences due to curing, weathering, etc. have occurred between tubes, new versus old or good versus bad. The peak at approximately 2087 cm<sup>-1</sup> showed up weakly in some of the glue spectra, but not in others. There does not seem to be a trend between good versus bad or new versus old tubes for this peak. It appeared to be a residue peak from a material on the metal surface of the tubes, and not from the glue itself. The 2087 cm<sup>-1</sup> peak in the metal spectra was quite strong, with the exception of one tube from the good lot. The material may be some type of primer used to prepare the metal surfaces for bonding with the glue. The broad peak at approximately 3365 cm<sup>-1</sup> appears to increase and decrease in direct proportion to the intensity of the 2087 cm<sup>-1</sup> peak, indicating that it could belong to the same material. Unfortunately, there does not appear to be a trend for the peak 2087 cm<sup>-1</sup> between the good and bad lots. All of the metal spectra showed hydrocarbon peaks at three spectra levels. Hydrocarbons make up part of the structure of many different organic compounds. They could be from the same material that is producing the 2087 cm<sup>-1</sup> peak or they could simply be from dirt, grease, or oil on the surface of the tubes. There does not appear to be a trend for the hydrocarbon peaks for good versus bad, or new versus used tubes. In Pt. Mugu's discussions about the rubber adhesive used on the LAU-61C/A Launchers, numerous possibilities about the failure of the



30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

adhesive were examined: Poor metal surface preparation, glue application technique, and weathering or other atmospheric effects on the tubes after assembly. Pt. Mugu came to the conclusion that it is difficult to pinpoint the problem since so much time has elapsed from the time the tube clusters were assembled.

NSWC INDIAN HEAD MEMO 8042 SER 5720H/702 04JAN96: Request to Indian Head AD&C to requisition four each new (unfired) LAU-61C/A Launchers from Lot HIR88A001-001A and HIR88J001-006 from the NOC IMSD Inventory Manager for further disassembly and evaluation at Pt. Mugu.

NSWC INDIAN HEAD 20MAR96: Telephone call to NAWC Pt. Mugu to confirm receipt of the four each new (unfired) launchers. Pt. Mugu indicated the launchers had been received for Engineering Investigation.

NSWC INDIAN HEAD 19JUN96: During a meeting with NAWC Pt. Mugu to review additional test results on the eight launchers received in March for the Engineering Investigation, the following was revealed: Prior to disassembling the eight launchers, Pt. Mugu observed the following: One of the launchers from Lot HIR88A001-001A had a big dent on the skin. All of the shock pans on launchers from Lot HIR88J001-006 were not locked properly, thereby making unloading them from the pallet difficult. The tube cluster assemblies for all eight launchers were completely separated from the rest of the launchers. With the exception of the launcher with the dent, all seven other tube cluster assemblies were in excellent condition. The tubes were held together tightly by the glue. Two of the tubes in the launcher with the dent fell off as the tube cluster assembly was being moved. The other tubes were held on tightly by the glue. It was noticed that some of the tube cluster assemblies had more glue than others, but this appeared to be a nonfactor. Pt. Mugu has identified a possible glue replacement for the one currently specified in the drawing; this would be for possible use in any future procurements. High performance two-part epoxy adhesives DP-460 or DP-420 are specifically designed for metal to metal bonding, whereas the current rubber adhesive called out in the TDP is used for plastics, rubber and other applications. DP-460 and DP-420 are made by 3M Corporation in Minnesota. Examined high performance contact Adhesive 1357, which is currently used by the Canadians in their 2.75-Inch Rocket Launchers; this adhesive also is not designed for use in metal to metal bonding even though the Canadians do not appear to have any problem with their launchers falling apart. The Indian Head and Pt. Mugu representatives agreed that the overall investigation results were inconclusive and the failures experienced to date were random occurrences. It was recommended that these two lots be reclassified to Condition Code "B" and restricted to single fire use only.

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

The following two actions were assigned to Indian Head: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only and contact Fleet users for potential impact regarding possible reclassification of these two lots to Condition Code "B".

NAWC PT MUGU LETTER 8150 SER 473310E/A-1138 OF 8APR97: Issued a report on the investigation of the incidents. After examining and evaluating the data gathered, the following actions were recommended: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only. Emphasize the importance to ordnance personnel of following the preloading and post-loading procedures for the launchers specified in the technical manual. Any launcher with broken detents, wires, hanging out, and/or tubes slipping in the tube cluster assembly should be reclassified to Condition Code "H" and withdrawn from further use. Replace the glue currently specified in the launcher technical data package with one which is better suited for aluminum bonding applications.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD/5720	INVESTIGATE	30SEP95 OPEN
<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>	
	MAWTS-1 MESSAGE 152131ZAPR93	REPORTED CODR 93-0093	
	NSWC INDIAN HEAD MESSAGE 211046ZMAY93	RESPONSE TO CODR 93-0093	
	NSWC INDIAN HEAD/5720 MESSAGE 181446ZFEB94	REQUEST FOR NAR	
	NOC MECHANICSBURG/IMSD MESSAGE 021930ZMAR94	NAR 0292-94 RECL HIR88J001-006 TO CC "J"	
	NSWC INDIAN HEAD/5720 MESSAGE 171546ZJAN95	REQ SHIPMENT OF LAUNCHER FROM MCAS YUMA	
	NSWC INDIAN HEAD/5720 TELCON 20MAR95	INDICATED ADDITIONAL LNCHR REC'D FOR EI	
	NSWC INDIAN HEAD/5720 MEETING 24JUL95	REVIEW OF STATUS OF LAU-61C/A LAUNCHER	
	NSWC INDIAN HEAD/5720 MEETING 14DEC95	REVIEW OF ADDITIONAL TEST RESULTS	
	NSWC INDIAN HEAD/5720 MEMO 04JAN96	REQ FOR 4 LNCHERS FROM EACH OF 2 LOTS	
	NSWC INDIAN HEAD/5720 TELCON 20MAR96	CONFIRM RECEIPT OF 8 UNFIRED LNCHERS	
	NSWC INDIAN HEAD/5720 MEETING 19JUN96	REVIEW ADDITIONAL TEST RESULTS	
	NAWC PT MUGU LETTER 08APR97	REPORT ON INVESTIGATION	

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

**ACTION : VMA-513 EMR M09231-92-0036 27MAY92 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>S/N:</b> UNKNOWN			
	<b>LOT:</b> HIR88J001-006			
<b>FAILED PART:</b>	DL958AS120	1340	01-144-3436	H121
	<b>NOMEN:</b> 2.75-INCH RKT LNCHR, THERMALLY PROTECTED			
	<b>LOT:</b> HIR88J001-006			

**DESCRIPTION:**

VMA-513 271000ZMAY92: Reported that during ripple fire, the subject launcher interior disintegrated with debris striking various parts of the aircraft. The launcher was loaded with 19 J147 (Lot BBG89J016-029) rocket motors with H663 (Lot MIS86M007-008) warheads. Postflight inspection revealed the entire interior of the launcher was missing.

**ACTION TAKEN:**

VMA-513 291330ZMAY92: General Use Aviation Hazard Report for LAU-61C/A users.

NSWC INDIAN HEAD 161346ZJUN92: NSWC Indian Head informed NAS Fallon Station Weapons and MAL5-11 that NAWC Pt. Mugu and NSWC Indian Head representatives would conduct an on-site Engineering Investigation (EI) of the subject launcher on 23 June 1992.

NSWC INDIAN HEAD 161146ZJUL92: Requested that the subject launcher (and a second launcher from the same lot that was palletized with it) be shipped to NAWC Pt. Mugu to support further evaluation and testing.

NAWC PT MUGU TRIP REPORT P2644 OF 05AUG92: Reported that the NAS Fallon on-site EI did not reveal a specific cause for the failure. The EI team will review launcher development testing and rocket motor lot history data. The anticipated delivery date of the EI exhibits is 21 Aug 1992, at which time a more detailed investigation can resume.

NAWC PT MUGU FINAL REPORT P2644/K-3062 OF 19JAN93: Provided EI results which provided no probable cause of the subject LAU-61C/A Launcher deficiency.

NSWC INDIAN HEAD 181446ZFEB94: Request for Notice of Ammunition Reclassification.

NOC IMSD MECHANICSBURG 021930ZMAR94: Notice of Ammunition

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

Reclassification 0291-94 reclassified LAU-61C/A Rocket Launcher Lot HIR88A001-001A to Condition Code "Juliet".

NSWC INDIAN HEAD 031546ZMAR94: Request to ship two Condition Code "A" LAU-61C/A Rocket Launchers (one from Lot HIR88A001-001A and one from Lot HIR88J001-006) to NAWC Pt Mugu, CA for an engineering investigation.

NSWC INDIAN HEAD 061546ZMAY94: NSWC Indian Head provided response/information on NAR 0291-94 and requested MCAGCC 29 Palms to ship the LAU-61C/A Rocket Launcher to NAWC Pt. Mugu (P2747) for an engineering investigation.

NSWC INDIAN HEAD 171546ZJAN95: Request to MCAS Yuma to ship one LAU-61C/A Launcher which had been used extensively during WTI 1-95 to NAWC Pt. Mugu.

NSWC INDIAN HEAD 20MAR95: Telephone call to NAWC Pt. Mugu indicated launcher had been received for Engineering Investigation.

NSWC INDIAN HEAD 24JUL95: Results of the investigation were discussed during a meeting with NAWC Pt. Mugu to review the status of the LAU-61C/A Launcher engineering investigation.

Pt. Mugu conducted an Engineering Investigation on the following LAU-61C/A Rocket Launchers: Four Launchers with previous rocket firings from Lot HIR88A001-001A, one New launcher from Lot HIR88A001-001A, one New launcher from Lot HIR88J001-006, and one Launcher with previous rocket firings from a lot other than HIR88A001-001A and HIR88J001-006.

The condition of the launchers received at Pt. Mugu for Engineering Investigation are as follows: Observed broken and unbonded detent assemblies in the four used launchers from Lot HIR88A001-001A. The two new launchers were in excellent condition. The one used launcher not drawn from either of the two problem lots was in good condition.

Engineering investigation procedures are: Removed the outer skin off the launchers. Removed the retaining straps enveloping the tube cluster assemblies. Determined if the tube cluster assemblies remain bonded without support of the straps. After disassembling the launchers, Pt. Mugu observed the following: The tube cluster assemblies of the four previously used launchers from Lot HIR88A001-001A fell apart on their own weight after the straps were removed. The tube cluster assemblies from the two new launchers remained together after removal of the straps. The tube cluster assembly of the launcher not drawn from either of the two problem lots was in excellent shape; the glue held on tight. Chemical

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

Analysis was conducted by NFESC, Port Hueneme as follows: Fourier Transform Infrared Spectroscopy -- No discernible difference was detected in the glue composition used in the bonding process of all the launchers tested. X-Ray Fluorescence -- No discernible difference was detected in the metal composition of the aluminum launcher tubes tested. They were all manufactured the same.

Conclusions from Pt. Mugu Engineering Investigation are as follows: By process of elimination, it appeared that the glue is not bonding to the aluminum tubes because of the way the tubes were prepared. The glue itself and the aluminum tubes can be safely ruled out as causes for the problems experienced by the launchers in Lots HIR88A001-001A and HIR88J001-006.

NSWC INDIAN HEAD 14DEC95: Another meeting was held with Pt. Mugu to discuss additional results. At the request of Pt. Mugu, the Naval Facilities Engineering Service Center, Port Hueneme, conducted additional Fourier Transform Infrared Analysis on numerous rocket launcher tubes. The intent of the analysis was to determine the cause for the glue failure in Lots HIR88A001-001A and HIR88J001-006. The launchers were drawn from Lot HIR88A001-001A and HIR88J001-006 and a good lot. Both used and brand new launchers were used for the Fourier Transform Infrared. Possible causes of the glue failures were speculated to be one or more of the following: Different glues used in bad lots versus good lots, glue improperly cured or mixed in bad lots, poor metal surface preparation on the bad lot tubes, glue was applied at the wrong temperature, rocket launcher tubes from the two bad lots may have been prepared differently when the tubes were manufactured, or tube cluster assemblies from the two bad lots may have been exposed to weathering phenomena which the good lots were not exposed to. This could potentially cause the glue to degrade, the tubes to corrode, or simply cause the tubes to expand and contract, resulting in a loss of adhesion. A total of 13 rocket launcher tubes were used in the Fourier Transform Infrared Analysis. Metal exterior samples taken from 29 locations on the 13 rocket launcher tubes. The glue sample from each of the 13 tubes was taken from the middle of each tube. Based on the results of the Fourier Transform Infrared Analysis, several observations are: All major peaks in the glue spectra were at the same wave numbers and of the same general shape from tube to tube, indicating that the glue on all the tubes is the same glue formulation and that no obvious differences due to curing, weathering, etc. have occurred between tubes, new versus old or good versus bad. The peak at approximately 2087 cm-1 showed up weakly in some of the glue spectra, but not in others. There does not seem to be a trend between good versus bad or new versus old tubes for this peak. It appeared to be a residue peak from a material on the metal surface of the tubes, and not from the glue itself. The 2087 cm-1 peak in the metal spectra was quite

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 15125

(Continued)

strong, with the exception of one tube from the good lot. The material may be some type of primer used to prepare the metal surfaces for bonding with the glue. The broad peak at approximately 3365 cm-1 appears to increase and decrease in direct proportion to the intensity of the 2087 cm-1 peak, indicating that it could belong to the same material. Unfortunately, there does not appear to be a trend for the peak 2087 cm-1 between the good and bad lots. All of the metal spectra showed hydrocarbon peaks at three spectra levels. Hydrocarbons make up part of the structure of many different organic compounds. They could be from the same material that is producing the 2087 cm-1 peak or they could simply be from dirt, grease, or oil on the surface of the tubes. There does not appear to be a trend for the hydrocarbon peaks for good versus bad, or new versus used tubes. In Pt. Mugu's discussions about the rubber adhesive used on the LAU-61C/A Launchers, numerous possibilities about the failure of the adhesive were examined: Poor metal surface preparation, glue application technique, and weathering or other atmospheric effects on the tubes after assembly. Pt. Mugu came to the conclusion that it is difficult to pinpoint the problem since so much time has elapsed from the time the tube clusters were assembled.

NSWC INDIAN HEAD MEMO 8042 SER 5720H/702 04JAN96: Request to Indian Head AD&C to requisition four each new (unfired) LAU-61C/A Launchers from Lot HIR88A001-001A and HIR88J001-006 from the NOC IMSD Inventory Manager for further disassembly and evaluation at Pt. Mugu.

NSWC INDIAN HEAD 20MAR96: Telephone call to NAWC Pt. Mugu to confirm receipt of the four each new (unfired) launchers. Pt. Mugu indicated the launchers had been received for Engineering Investigation.

NSWC INDIAN HEAD 19JUN96: During a meeting with NAWC Pt. Mugu to review additional test results on the eight launchers received in March for the Engineering Investigation, the following was revealed: Prior to disassembling the eight launchers, Pt. Mugu observed the following: One of the launchers from Lot HIR88A001-001A had a big dent on the skin. All of the shock pans on launchers from Lot HIR88J001-006 were not locked properly, thereby making unloading them from the pallet difficult. The tube cluster assemblies for all eight launchers were completely separated from the rest of the launchers. With the exception of the launcher with the dent, all seven other tube cluster assemblies were in excellent condition. The tubes were held together tightly by the glue. Two of the tubes in the launcher with the dent fell off as the tube cluster assembly was being moved. The other tubes were held on tightly by the glue. It was noticed that some of the tube cluster assemblies had more glue than others, but this appeared to be a nonfactor. Pt. Mugu has identified a possible glue replacement for the one currently

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 15125**

**(Continued)**

specified in the drawing; this would be for possible use in any future procurements. High performance two-part epoxy adhesives DP-460 or DP-420 are specifically designed for metal to metal bonding, whereas the current rubber adhesive called out in the TDP is used for plastics, rubber and other applications. DP-460 and DP-420 are made by 3M Corporation in Minnesota. Examined high performance contact Adhesive 1357, which is currently used by the Canadians in their 2.75-Inch Rocket Launchers; this adhesive also is not designed for use in metal to metal bonding even though the Canadians do not appear to have any problem with their launchers falling apart. The Indian Head and Pt. Mugu representatives agreed that the overall investigation results were inconclusive and the failures experienced to date were random occurrences. It was recommended that these two lots be reclassified to Condition Code "B" and restricted to single fire use only.

The following two actions were assigned to Indian Head: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only and contact Fleet users for potential impact regarding possible reclassification of these two lots to Condition Code "B".

NAWC PT MUGU LETTER 8150 SER 473310E/A-1138 OF 8APR97: Issued a report on the investigation of the incidents. After examining and evaluating the data gathered, the following actions were recommended: Meet with the Aircraft Rockets Program Manager (PEOTACAIR PMA-242) to discuss reclassification of these two launcher lots to Condition Code "B" (Serviceable, Issue with Qualification), restricted to single fire use only. Emphasize the importance to ordnance personnel of following the preloading and post-loading procedures for the launchers specified in the technical manual. Any launcher with broken detents, wires, hanging out, and/or tubes slipping in the tube cluster assembly should be reclassified to Condition Code "H" and withdrawn from further use. Replace the glue currently specified in the launcher technical data package with one which is better suited for aluminum bonding applications.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD/5720	INVESTIGATE	30SEP95	OPEN

  

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		VMA-513 MESSAGE 271000ZMAY92	EMR 92-0036
		VMA-513 MESSAGE 291330ZMAY92	AVIATION HAZARD REPORT
		NSWC INDIAN HEAD MESSAGE 161346ZJUN92	EI VISIT CONFIRMATION
		NSWC INDIAN HEAD MESSAGE 161146ZJUL92	EI EXHIBIT REQUEST
		NAWC PT MUGU LETTER 05AUG92	EI FOLLOW UP
		NAWC PT MUGU EI REPORT 19JAN93	EI RESULTS FOR EMR 92-0036

30-NOV-01

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 15125

(Continued)

REFERENCES :	IDENTIFICATION	REFERENCE BRIEF
	NSWC INDIAN HEAD MESSAGE 181446ZFEB94	REQUEST FOR NAR
	NOC MECHANICSBURG/IMSD MESSAGE	NAR 0292-94 RECL
	021930ZMAR94	HIR88J001-006 TO CC "J"
	NSWC INDIAN HEAD/5720 MESSAGE	REQ SHIPMENT OF LAUNCHER
	171546ZJAN95	FROM MCAS YUMA
	NSWC INDIAN HEAD/5720 TELCON 20MAR95	INDICATED ADDITIONAL LNCHR
		REC'D FOR EI
	NSWC INDIAN HEAD/5720 MEETING 24JUL95	REVIEW STATUS OF LU-61C/A
		LAUNCHER
	NSWC INDIAN HEAD/5720 MEETING 14DEC95	REVIEW OF ADDITIONAL TEST
		RESULTS
	NSWC INDIAN HEAD/5720 MEMO 04JAN96	REQ FOR 4 LNCHERS FROM EACH
		OF 2 LOTS
	NSWC INDIAN HEAD/5720 TELCON 20MAR96	CONFIRM RECEIPT OF 8 UNFIRED
		LNCHERS
	NSWC INDIAN HEAD/5720 MEETING 19JUN96	REVIEW ADDITIONAL TEST
		RESULTS
	NAWC PT MUGU LETTER 08APR97	REPORT ON INVESTIGATION



30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**OPEN**

	<b>NOMENCLATURE</b>	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	5-INCH ZUNI ROCKET	DL318AS200	1340	00-007-9750	

**EI CNTRL NO:**

**PROB BRIEF :** DAMAGE TO HORIZONTAL STABILATOR OF F/A-18 AIRCRAFT DURING ZUNI MK 71, MOD 1, FIRINGS

**PROBLEM :** Damage to the horizontal stabilator (STAB).  
**DESCRIPTION**

**PREVENTIVE :** Unknown at this time.  
**ACTION**

**CORRECTIVE :** Unknown at this time.  
**ACTION**

	<b>SOURCE</b>	<b>TYPE</b>	<b>DOCUMENT NO.</b>	<b>DATE</b>	<b>DR STATUS</b>
<b>OCCURRENCES:</b>	VMFA(AW)-224	CODR	M09439-98-0015	10SEP98	OPEN
	VMFA(AW)-224	CODR	M09439-98-0010	11FEB98	OPEN
	VMFA(AW)-224	CODR	M09439-98-0011	05FEB98	OPEN

<b>ACTION :</b>	<b>VMFA(AW)-224</b>	<b>CODR</b>	<b>M09439-98-0015</b>	<b>10SEP98</b>	<b>OPEN</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL318AS200	1340	00-007-9750	
	<b>NOMEN:</b> 5-INCH ZUNI ROCKET			
	<b>LOT:</b> MCA93G002-026			
<b>FAILED PART:</b>	DL318AS200	1340	00-007-9750	
	<b>NOMEN:</b> 5-INCH ZUNI ROCKET			
	<b>LOT:</b> MCA93G002-026			

**DESCRIPTION:**

VMFA(AW)-224 101122ZSEP98: Reported that postflight inspection of the aircraft returning from training sortie revealed damage on the underside of the right horizontal stabilator (STAB). STAB damaged in repair Zones D1 and D2, 10 inches long, three inches wide and .015 inch deep. The aircraft was firing five inch ZUNI Rockets from vertical ejector racks (regular VERS, not canted) loaded on all four wing stations (two, three, seven and eight). All VER stations were loaded with two LAU-10D PODS (AAC-837 incorporated), four ZUNI Rockets per POD. The aircrew noted nothing abnormal during flight. All rockets appeared to function properly. The damaged area is in a direct line with Station seven's left rocket POD and the fourth position in the rocket POD (looking from the rear) or the fourth rocket in the firing sequence.

VMFA(AW)-224 141122ZSEP98: Reported a correction to previous

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**(Continued)**

message. POD one hung, POD two fired out and POD three had the rocket in the second position hang. A total of seven of twelve fired.

**ACTION TAKEN:**

NSWC Indian Head 181346ZSEP98: Requested a NAR reclassifying Lots MCA92H002-015, MCA92H002-016A, MCA92J002-0017, MCA92J002-018A, MCA92J002-019, MCA92K002-021 and MCA93G002-026 to Condition Code (CC) "B" (Bravo) - Serviceable (Ready for Issue with restriction). The specific restriction is that these lots not be used on the F/A-18 aircraft.

NSWC Indian Head 210948ZSEP98: Gave report of the findings so far. The 24 motors from Lot MCA93G002-016 were downloaded and the motor hardware was inspected. No abnormalities that could cause the incidents were found. The nozzle plug (P/N 318AS142) of two motor nozzles were removed for analysis. The plugs were found to be hard and heavy to the touch. The nozzles were manufactured by National Machine Company. The plugs were sent to the lab for chemical analysis. The analysis compared plugs from Lot MCA93G002-026 (National Machine Nozzle and Fin Assembly) with plugs from nozzles from an early production lot. The chemical analysis revealed that the National Machine Plugs were heavier (66.27 gms to 24.9 gms), denser (10.95 lb/ft<sup>3</sup> to 3.88 lb/ft<sup>3</sup>) and harder (71-76 Rockwell to 31-94 Rockwell).

Seventy Mk 71 Mod 1 Rocket Motors were ground launched at the Yuma Proving Ground to test for evidence of hardware ejection. Sixty-four motors from Lot MCA93G002-026 were tested along with six motors from earlier production lots for comparison purposes. The hardware of 55 of the motors were recovered and downloaded. No internal components were ejected.

The nozzle plugs were recovered during the ground launch test. The plugs from Lot MCA93G002-026 did not break up during firing or at impact. The plugs from earlier production lots broke up during firing or at impact.

Six motors were fired at a 0 degree angle. High velocity cameras and a grid board were used to establish the velocity of the plugs. We found that the velocity of the plugs from Motor Lot MCA93G002-026 was 1061 ft/sec which the velocity of the motors from earlier production was 462 ft/sec.

Two Mk 71 Mod 1 Rocket Motors from Lot MCA92H002-016A were downloaded. These motors were selected because the nozzle fin assembly was also manufactured by National Machine Company. The nozzle plugs were removed and inspected. The inspection of the nozzle plugs revealed the same characteristics as the plugs from Lot

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**(Continued)**

MCA93G002-026.

We believe the most probable cause for the incidents is the nozzle plug striking the horizontal stabilator of the aircraft.

The engineering investigation is still in process.

NSWC INDIAN HEAD 220946ZSEP98: Issued response to CODR V09439-98-0015. Requested copy of photographs of damaged areas of aircraft horizontal stabilator be sent to Indian Head.

NOC MECHANICSBURG 251530ZSEP98: Issued NAR 0532-98 for the 12 lots cited in NSWC Indian Head 181346ZSEP98 to reclassify the lots to Condition Code "B" - restricted from use on F/A-18 Aircraft.

PEOTACAIR MEETING 29SEP98: Reviewed the incidents and status of the engineering investigation with the Rockets Program Office (PMA-242). The program office requested Indian Head evaluate methods for removing the nozzle plug from nozzles manufactured by National Machine and Custom Machine. The plug would be replaced by a new plug which meets the density requirement of the technical data package.

PEOTACAIR MEETING 18MAY99: Reviewed the status of the evaluation of methods for removing the nozzle plug from the nozzle. Motor Lot MCA93J002-029 is being used to evaluate methods for removal. This lot was loaded with nozzles manufactured by Custom Machine. Lot MCA93G002-026 with nozzles manufactured by National Machine was also being used in this evaluation to cover both nozzle vendors. Various tool designs were evaluated: cork screw; auger. The auger was selected as the best design.

NSWC INDIAN HEAD/YUMA PROVING GROUND YUMA AZ MEETING 21-25JUN99: Conducted ground-launch firing of 61 Mk 71 Mod 1 Motors with Custom Machine nozzles at Yuma Proving Ground. This test was necessitated since a majority of the Custom Machine plugs were pulling out at the center core of the plug, in lieu of coming out while (in one piece). The tests showed approximately 75 percent of the plugs broke into small fragments. The remaining 25 percent came out in large pieces or whole. Based on the test, a comparative analysis will be conducted on National Machine and Custom Machine plugs. We need to determine if the Custom Machine plugs will be capable of inflicting damage to the F/A-18 Aircraft.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	09DEC98	OPEN

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**(Continued)**

**REFERENCES : IDENTIFICATION**

VMFA(AW)-224 MESSAGE 101122ZSEP98  
VMFA(AW)-224 MESSAGE 141122ZSEP98  
NSWC INDIAN HEAD MESSAGE 181346ZSEP98  
NSWC INDIAN HEAD MESSAGE 210948ZSEP98  
NSWC INDIAN HEAD MESSAGE 220946ZSEP98  
NOC MECHANICSBURG MESSAGE 251530ZSEP98  
NAVAIR MEETING 29SEP98  
NAVAIR MEETING 18MAY99  
NSWC INDIAN HEAD MEETING 21JUN99

**REFERENCE BRIEF**

REPORTED CODR  
CORRECTION TO ORIGINAL REPORT  
REQUESTED NAR  
REPORTED ON INVESTIGATION  
RESPNSE TO CODR  
ISSUED NAR  
DISCUSSED CODR EI  
DISCUSSED CODR STATUS  
CONDUCTED FIRINGS

**ACTION : VMFA(AW)-224 CODR M09439-98-0010 11FEB98 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL318AS200	1340	00-007-9750	
	<b>NOMEN:</b> 5-INCH ZUNI ROCKET			
	<b>LOT:</b> MCA93G002-026			
<b>FAILED PART:</b>	DL318AS200	1340	00-007-9750	
	<b>NOMEN:</b> 5-INCH ZUNI ROCKET			
	<b>LOT:</b> MCA93G002-026			

**DESCRIPTION:**

VMFA(AW)-224 111615ZFEB98: Postflight inspection of aircraft after CAX-3 mission revealed dent under left horizontal stabilator (STAB). Stab damaged in repair zones D1 and D2, 12 1/4 inches long, 2 3/4 inches wide and .090 inch deep. Aircraft was firing five inch ZUNI Rockets from canted vertical ejector rack (CVER) Station two. Both the left and right Stations of the CVER were loaded with one POD of four rockets. Aircrew noted nothing abnormal during flight and rocket appeared to function properly.

**ACTION TAKEN:**

NSWC Indian Head 040947ZMAR98: Requested 24 Mk 71 Mod 1 Motors from Lot MCA93G002-026 be shipped to Indian Head for an engineering investigation.

NSWC Indian Head 051347ZMAR98: Requested that all photographs of the damaged areas be shipped to NSWC Indian Head by the fastest traceable means to assist in an engineering investigation. The results of the analysis of the ECAM data also be forwarded to NSWC Indian Head for review and analysis. NSWC Indian Head requested that 48 Mk 71 Mod 1 ZUNI Rocket Motors from Lot MCA93G002-026 be shipped to Indian Head.

NSWC Indian Head 270946ZMAR98: Reported with information and reference numbers to be used in referring to these two deficiencies.

NSWC Indian Head 181346ZSEP98: Requested a NAR reclassifying Lots

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**(Continued)**

MCA92H002-015, MCA92H002-016A, MCA92J002-0017, MCA92J002-018A, MCA92J002-019, MCA92K002-021 and MCA93G002-026 to Condition Code (CC) "B" (Bravo) - Serviceable (Ready for Issue with restriction). The specific restriction is that these lots not be used on the F/A-18 aircraft.

NSWC Indian Head 210948ZSEP98: Gave report of the findings so far. The 24 motors from Lot MCA93G002-016 were downloaded and the motor hardware was inspected. No abnormalities that could cause the incidents were found. The nozzle plug (P/N 318AS142) of two motor nozzles were removed for analysis. The plugs were found to be hard and heavy to the touch. The nozzles were manufactured by National Machine Company. The plugs were sent to the lab for chemical analysis. The analysis compared plugs from Lot MCA93G002-026 (National Machine Nozzle and Fin Assembly) with plugs from nozzles from an early production lot. The chemical analysis revealed that the National Machine Plugs were heavier (66.27 gms to 24.9 gms), denser (10.95 lb/ft<sup>3</sup> to 3.88 lb/ft<sup>3</sup>) and harder (71-76 Rockwell to 31-94 Rockwell).

Seventy Mk 71 Mod 1 Rocket Motors were ground launched at the Yuma Proving Ground to test for evidence of hardware ejection. Sixty-four motors from Lot MCA93G002-026 were tested along with six motors from earlier production lots for comparison purposes. The hardware of 55 of the motors were recovered and downloaded. No internal components were ejected.

The nozzle plugs were recovered during the ground launch test. The plugs from Lot MCA93G002-026 did not break up during firing or at impact. The plugs from earlier production lots broke up during firing or at impact.

Six motors were fired at a 0 degree angle. High velocity cameras and a grid board were used to establish the velocity of the plugs. We found that the velocity of the plugs from Motor Lot MCA93G002-026 was 1061 ft/sec which the velocity of the motors from earlier production was 462 ft/sec.

Two Mk 71 Mod 1 Rocket Motors from Lot MCA92H002-016A were downloaded. These motors were selected because the nozzle fin assembly was also manufactured by National Machine Company. The nozzle plugs were removed and inspected. The inspection of the nozzle plugs revealed the same characteristics as the plugs from Lot MCA93G002-026.

We believe the most probable cause for the incidents is the nozzle plug striking the horizontal stabilator of the aircraft.

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**(Continued)**

The engineering investigation is still in process.

NSWC INDIAN HEAD 220946ZSEP98: Issued response to deficiency V09439-98-0015. Requested copy of photographs of damaged areas of aircraft horizontal stabilator be sent to Indian Head.

NOC MECHANICSBURG 251530ZSEP98: Issued NAR 0532-98 for the 12 lots cited in NSWC Indian Head 181346ZSEP98 to reclassify the lots to Condition Code "B" - restricted from use on F/A-18 Aircraft.

PEOTACAIR MEETING 29SEP98: Reviewed the incidents and status of the engineering investigation with the Rockets Program Office (PMA-242). The program office requested Indian Head evaluate methods for removing the nozzle plug from nozzles manufactured by National Machine and Custom Machine. The plug would be replaced by a new plug which meets the density requirement of the technical data package.

PEOTACAIR MEETING 18MAY99: Reviewed the status of the evaluation of methods for removing the nozzle plug from the nozzle. Motor Lot MCA93J002-029 is being used to evaluate methods for removal. This lot was loaded with nozzles manufactured by Custom Machine. Lot MCA93G002-026 with nozzles manufactured by National Machine was also being used in this evaluation to cover both nozzle vendors. Various tool designs were evaluated: cork screw; auger. The auger was selected as the best design.

NSWC INDIAN HEAD/YUMA PROVING GROUND YUMA AZ MEETING 21-25JUN99: Conducted ground-launch firing of 61 Mk 71 Mod 1 Motors with Custom Machine nozzles at Yuma Proving Ground. This test was necessitated since a majority of the Custom Machine plugs were pulling out at the center core of the plug, in lieu of coming out whole (in one piece). The tests showed approximately 75 percent of the plugs broke into small fragments. The remaining 25 percent came out in large pieces or whole. Based on the test, a comparative analysis will be conducted on National Machine and Custom Machine plugs. We need to determine if the Custom Machine plugs will be capable of inflicting damage to the F/A-18 Aircraft.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	13MAY98	OPEN

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		VMFA(AW)-224 MESSAGE 111615ZFEB98	REPORTED CODR
		NSWC INDIAN HEAD MESSAGE 040947ZMAR98	RESPONDED TO CODR
		NSWC INDIAN HEAD MESSAGE 051347ZMAR98	REQUEST MORE DATA
		NSWC INDIAN HEAD MEETING 21JUN99	CONDUCTED FIRINGS
		NSWC INDIAN HEAD MESSAGE 080947ZMAY01	CLOSING ACTION

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**(Continued)**

**ACTION : VMFA(AW)-224 CODR M09439-98-0011 05FEB98 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL318AS200	1340	00-007-9750	
	<b>NOMEN:</b> 5-INCH ZUNI ROCKET			
	<b>LOT:</b> MCA93G002-026			
<b>FAILED PART:</b>	DL318AS200	1340	00-007-9750	
	<b>NOMEN:</b> 5-INCH ZUNI ROCKET			

**DESCRIPTION:**

VMFA(AW)-224 051100ZFEB98: During training exercise in which F/A-18 Aircraft was firing Mk 71 Mod 1 Rockets, the horizontal stabilator of the aircraft was damaged.

VMFA(AW)-224 181815ZFEB98: Provided additional information on deficiency.

**ACTION TAKEN:**

NSWC Indian Head 040947ZMAR98: Requested 24 Mk 71 Mod 1 Motors from Lot MCA93G002-026 be shipped to Indian Head for an engineering investigation.

NSWC Indian Head 051347ZMAR98: Responded to deficiency. Requested copies of all photographs and ECAM data related to this incident and also to V09439-98-0010.

NSWC Indian Head 270946ZMAR98: Reported with information and reference numbers to be used in referring to these two deficiencies.

NSWC Indian Head 181346ZSEP98: Requested a NAR reclassifying Lots MCA92H002-015, MCA92H002-016A, MCA92J002-0017, MCA92J002-018A, MCA92J002-019, MCA92K002-021 and MCA93G002-026 to Condition Code (CC) "B" (Bravo) - Serviceable (Ready for Issue with restriction). The specific restriction is that these lots not be used on the F/A-18 aircraft.

NSWC Indian Head 210948ZSEP98: Gave report of the findings so far. The 24 motors from Lot MCA93G002-016 were downloaded and the motor hardware was inspected. No abnormalities that could cause the incidents were found. The nozzle plug (P/N 318AS142) of two motor nozzles were removed for analysis. The plugs were found to be hard and heavy to the touch. The nozzles were manufactured by National Machine Company. The plugs were sent to the lab for chemical analysis. The analysis compared plugs from Lot MCA93G002-026 (National Machine Nozzle and Fin Assembly) with plugs from nozzles from an early production lot. The chemical analysis revealed that the National Machine Plugs were heavier (66.27 gms to 24.9 gms), denser (10.95 lb/ft3 to 3.88 lb/ft3) and harder (71-76 Rockwell to

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**(Continued)**

31-94 Rockwell).

Seventy Mk 71 Mod 1 Rocket Motors were ground launched at the Yuma Proving Ground to test for evidence of hardware ejection. Sixty-four motors from Lot MCA93G002-026 were tested along with six motors from earlier production lots for comparison purposes. The hardware of 55 of the motors were recovered and downloaded. No internal components were ejected.

The nozzle plugs were recovered during the ground launch test. The plugs from Lot MCA93G002-026 did not break up during firing or at impact. The plugs from earlier production lots broke up during firing or at impact.

Six motors were fired at a 0 degree angle. High velocity cameras and a grid board were used to establish the velocity of the plugs. We found that the velocity of the plugs from Motor Lot MCA93G002-026 was 1061 ft/sec which the velocity of the motors from earlier production was 462 ft/sec.

Two Mk 71 Mod 1 Rocket Motors from Lot MCA92H002-016A were downloaded. These motors were selected because the nozzle fin assembly was also manufactured by National Machine Company. The nozzle plugs were removed and inspected. The inspection of the nozzle plugs revealed the same characteristics as the plugs from Lot MCA93G002-026.

We believe the most probable cause for the incidents is the nozzle plug striking the horizontal stabilator of the aircraft.

The engineering investigation is still in process.

NSWC INDIAN HEAD 220946ZSEP98: Issued response to deficiency V09439-98-0015. Requested copy of photographs of damaged areas of aircraft horizontal stabilator be sent to Indian Head.

NOC MECHANICSBURG 251530ZSEP98: Issued NAR 0532-98 for the 12 lots cited in NSWC Indian Head 181346ZSEP98 to reclassify the lots to Condition Code "B" - restricted from use on F/A-18 Aircraft.

PEOTACAIR MEETING 29SEP98: Reviewed the incidents and status of the engineering investigation with the Rockets Program Office (PMA-242). The program office requested Indian Head evaluate methods for removing the nozzle plug from nozzles manufactured by National Machine and Custom Machine. The plug would be replaced by a new plug which meets the density requirement of the technical data package.

PEOTACAIR MEETING 18MAY99: Reviewed the status of the evaluation of



30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16407**

**(Continued)**

methods for removing the nozzle plug from the nozzle. Motor Lot MCA93J002-029 is being used to evaluate methods for removal. This lot was loaded with nozzles manufactured by Custom Machine. Lot MCA93G002-026 with nozzles manufactured by National Machine was also being used in this evaluation to cover both nozzle vendors. Various tool designs were evaluated: cork screw; auger. The auger was selected as the best design.

NSWC INDIAN HEAD/YUMA PROVING GROUND YUMA AZ MEETING 21-25JUN99:  
Conducted ground-launch firing of 61 Mk 71 Mod 1 Motors with Custom Machine nozzles at Yuma Proving Ground. This test was necessitated since a majority of the Custom Machine plugs were pulling out at the center core of the plug, in lieu of coming out while (in one piece). The tests showed approximately 75 percent of the plugs broke into small fragments. The remaining 25 percent came out in large pieces or whole. Based on the test, a comparative analysis will be conducted on National Machine and Custom Machine plugs. We need to determine if the Custom Machine plugs will be capable of inflicting damage to the F/A-18 Aircraft.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	10MAY98 OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	VMFA(AW)-224 MESSAGE 051100ZFEB98	REPORTED CODR
	VMFA(AW)-224 MESSAGE 181815ZFEB98	ADDITIONAL INFO ON CODR
	NSWC INDIAN HEAD MESSAGE 040947ZMAR98	REQUEST FOR EI ASSETS
	NSWC INDIAN HEAD MESSAGE 051347ZMAR98	RESPONDED TO CODR
	NSWC INDIAN HEAD MESSAGE 270946ZMAR98	GAVE MORE INFORMATION AND REFERENCE NOS.
	NSWC INDIAN HEAD MESSAGE 181346ZSEP98	REQUEST FOR NAR
	NOC MECHANICSBURG MESSAGE 251530ZSEP98	ISSUED NAR
	NAVAIR MEETING 29SEP98	DISCUSS CODR EI
	NAVAIR MEETING 18MAY99	DISCUSS CODR STATUS
	NSWC INDIAN HEAD MEETING 21JUN99	CONDUCTED FIRINGS

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**OPEN**

	<b>NOMENCLATURE</b>	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	ROCKET MOTOR	233AS500	1340	01-154-1679	J147
	ROCKET MOTOR	233AS500	1340	01-154-1680	J147
	2.75-INCH ROCKET MOTOR	233AS500	1340	01-245-3945	J147
	ROCKET MOTOR, MK 66 MOD 2	233AS600	1340	01-245-3945	J147

**EI CNTRL NO:**

**PROB BRIEF :** 2.75-INCH LAUNCHER DID NOT FIRE ROCKETS OR FIRED ROCKETS  
INTERMITTENTLY

**PROBLEM :** Rocket failed to fire during numerous attempts.  
**DESCRIPTION**

**PREVENTIVE :** Unknown at this time.  
**ACTION**

**CORRECTIVE :** NSWC INDIAN HEAD 30JUN99: The conclusions of the engineering  
**ACTION** investigation of 2.75-Inch Mk 66 Mod 2 Rocket System Conventional  
Ordnance Deficiency Reports at MCAS New River is as follows:

1. Electrical Checkout of Rocket Launchers on Aircraft:

a. The three launchers (S/N 61, 90 and 102) tested all were  
verified as functioning properly electrically when tested on the  
aircraft.

b. The intermittent test results experienced during the  
investigation were most probably caused by the defective Rocket  
Launcher/Dispenser Adapter Cable.

c. The Conventional Ordnance Deficiency Reports that  
resulted in no rocket firings were most probably caused by either a  
defective rocket launcher/dispenser adapter cable or an  
intervalometer set on "L"-Load position in lieu of "A"-Arm Position.

d. Testing the Rocket Launcher/Dispenser Adapter Cable with  
a test meter probe which is larger in diameter than the 5-pin  
connector will cause damage to the connector, and create the  
potential for intermittent rocket firings or rocket launcher  
no-fires.

e. This test validated the launcher electrical checkout  
results obtained using the Mk III Test Set.

2. Electrical Checkout of Rocket Launchers Using MK III Test  
Set:

a. If properly used the MK III Test Set will cycle the  
intervalometer to the "L" - Load position. Then it is only required  
to rotate the intervalometer "one click" to the "A" - Arm position  
for rocket firing.

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

b. The MK III Test Set will detect electrical discrepancies in the launcher when properly used and maintained.

c. There were some indications that the MK III Test Set was not being used by the MALS units to do the electrical checks on launchers.

d. Launcher Tube one rocket no-fires were most probably caused by the intervalometer being set to "1", in lieu of "A" - Arm position. The first rocket to fire in this situation would be the one in Tube two.

3. Mk 66 Mod 2 Rocket Loading:

a. Inspection of loaded launchers by the Navy CFA Team indicated that some rockets were not being loaded correctly by the MALS units.

b. After the detailed Navy CFA Team review of the proper rocket loading procedures with the MALS units, rockets were observed being loaded correctly and firing out successfully.

4. Mk 66 Mod 2 Rocket Motor No-Fires:

During the EI the MALS unit indicated they had four Mk 66 Mod 2 Motors which had been loaded and flown three to four times, each time having returned as a rocket no-fire. The motor lot number indicated they were produced during the period when the lockwire was being coated with a low conductivity coating. This coating is black in color and has been identified as the cause of some previous Army Mk 66 Rocket no-fire incidents. The lockwire on these four motors was black in color. Working with the MALS unit, the Navy CFA Team rotated the nozzle assembly 90 degrees in an attempt to improve the ground path conductivity. These motors were loaded and flown that evening. The motors returned as no-fires. The four rocket motors were the most probable cause for the multiple rocket no-fires which could not be associated with any of the reference CODRs and were reclassified as unserviceable and returned to NSWC Indian Head for further evaluation.

5. Rocket Launcher Maintenance:

a. The inspection of the launchers referenced in the CODRs and other launchers provided by the MALS units and checked by the Navy CFA Team showed evidence they were not being properly cleaned and maintained.

b. After the Navy CFA Team detailed review of the launcher cleaning and maintenance procedures with the MALS units, the launchers were being cleaned properly and thoroughly.

6. Setting the Intervalometer on the Aircraft at the Flight

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 16629

(Continued)

Line:

Personnel were observed rotating the intervalometer completely around, in lieu of turning it "one click" to "A" - Arm position. This could result in missetting the intervalometer to the "L" - Load position, and result in rocket no fires.

## RECOMMENDATIONS:

Based on the results of the Navy CFA Team investigation, the following recommendations are provided:

1. Inspect all Rocket Launcher/Dispenser Adapter Cables used on the AH-1W/UH-1N Aircraft for damage to the five pin connector. Turn in any cables where damage is discovered for replacements.
2. Suspend use of the large test meter probe when checking the Rocket Launcher/Dispenser Adapter Cable five pin connector female "A" receptacle. This can cause damage to this receptacle in the connector.
3. Discontinue the practice of rotating the intervalometer completely around at the flight line. This can cause the intervalometer to be set on the "L" - Load position, in lieu of the "A" - Arm position. It should only be necessary to rotate the intervalometer "one click" to the "A" - Arm position.
4. Clean and maintain the LAU-61C/A and LAU-68D/A Launchers thoroughly after each flight mission per TM NAVAIR 11-75A-61, Section VI, paragraph 6-5. This will ensure launchers are kept in good operational condition.
5. When not in use, ensure the launchers are stowed with the Shipping Cover Assemblies properly installed on each end and the eight Cap Screws are securely tightened.
6. When loading rockets, ensure an inspection (check) is performed to verify the launcher Blast Paddle-Detent does not align with the nozzle fin pin. If this condition exists, rotate the rocket in either direction until the Blast Paddle is located between two fin pinholes.

NSWC INDIAN HEAD 30JUL99: At the request of HMLA-269 the report has been revised to address in more detail Navy CFA Team intervalometer replacement, and microswitch boot replacement in the Safety Switch Assembly. Added to the report was the inspection of 5-Inch LAU-10D/A Launchers in accordance with the Technical Directive AWB-388.

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

NSWC INDIAN HEAD 27AUG99: The conclusion reached as a result of this additional investigation conducted at MCAGCC 29 Palms are as follows:

1. During this on-site visit a total of 42 LAU-61C/A, 89 LAU-68D/A and 38 LAU-10D/A Launchers were inspected and electrical function tested by the CFA Team and determined to be in Serviceable (RFI) condition, and were turned over to the MALS unit for use in support of CAX and other exercises.

2. The rejected (unserviceable) launchers are to be turned in so that replacements can be requisitioned.

3. The four launchers sent to the CFA Team for inspection and retest after three CODRs were all observed as having been cleaned and maintained properly and thoroughly as recommended.

NSWC INDIAN HEAD 24SEP99: A Test Plan for 2.75-Inch Rocket System Evaluation of O-Level and I-Level Weapon System Procedures was developed based on the continued occurrence of these incidents for further evaluation of the 2.75-Inch Rocket System.

NSWC INDIAN HEAD 051946ZAPR00: Updates the status of the 2.75-Inch Launcher no-fire problem engineering investigation. There have been numerous Conventional Ordnance Deficiency Reports submitted relative to the random no-fires of the 2.75-inch rockets in both LAU-61 and LAU-68. NSWC Indian Head conducted an investigation of these incidents. The investigation included analysis and trouble shooting of the incidents at fleet firing exercises and laboratory measurements of 2.75-inch rocket launcher performance under simulated helicopter operational environments.

The investigation of the fleeting firing exercise found that random no-fires occur in launchers that check out as fully operational with the MK III Test Set before and after the mission. The launcher firing reliability is affected by a number of factors such as aircraft-to-launcher connector problems, dirty launch tube elect contacts, and detent mechanisms. However, the launcher firing reliability is below requirements when the factors were eliminated from the inspections results.

The investigation team is now looking at the possibility of reworking the inventory of launchers to minimize or correct the no-fire problem. Recommendations on repair actions are anticipated by August 2000.

The engineering investigation is still in-process.

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	NSWC INDIAN HEAD REPORT 30JUN99	EI REPORT
	NSWC INDIAN HEAD REVISED REPORT 30JUL99	REVISED EI REPORT
	NSWC INDIAN HEAD ADDITIONAL REPORT 27AUG99	ADDITIONAL REPORT
	NSWC INDIAN HEAD TEST PLAN 24SEP99	TEST PLAN
	NSWC INDIAN HEAD MESSAGE 051946ZAPR00	UPDATE STATUS OF 2.75-INCH RKT LNCHR

<b>OCCURRENCES:</b>	<b>SOURCE</b>	<b>TYPE</b>	<b>DOCUMENT NO.</b>	<b>DATE</b>	<b>DR STATUS</b>
	HMLA-167	CODR	M09898-01-0012	27SEP01	CLOSED
	HMM-265	CODR	M09404-01-0021	05SEP01	CLOSED
	USS KEARSARGE (LHD-3)	CODR	V21700-01-0007	16AUG01	CLOSED
	HMLA-169	CODR	M09202-01-0005	25JUL01	CLOSED
	HMLA-167	CODR	M09898-01-0003	24MAY01	OPEN
	HMLA-267	CODR	M09159-01-0003	24MAY01	OPEN
	HMM-265	CODR	M09404-01-0019	22MAY01	CLOSED
	HMT-303	CODR	M55176-01-0017	09MAY01	OPEN
	HMT-303	CODR	M55176-01-0303	09MAY01	OPEN
	STRKFIGHTWINGLANT	CODR	V55250-01-0012	23APR01	OPEN
	MALS-13	CODR	M57082-01-0043	20APR01	OPEN
	VMFA(AW)-225	CODR	M09232-01-0015	18APR01	OPEN
	VMFA(AW)-225	CODR	M09232-01-0011	04APR01	OPEN
	MAWTS-1	CODR	M55167-01-0017	29MAR01	OPEN
	VMFA(AW)-225	CODR	M09232-00-0027	14OCT00	OPEN
	HMLA-267	CODR	M09159-00-0027	03OCT00	OPEN
	HMLA-167	CODR	M09898-00-0085	30AUG00	OPEN
	HMLA-269	CODR	M08998-00-0054	27AUG00	OPEN
	HMLA-773	CODR	M09472-00-0016	25AUG00	OPEN
	HMLA-269	CODR	M08998-00-0047	06AUG00	OPEN
	HMLA-269	CODR	M08998-00-0048	06AUG00	CLOSED
	HMLA-167	CODR	M09898-00-0078	04AUG00	OPEN
	HMLA-167	CODR	M09898-00-0077	02AUG00	OPEN
	HMLA-167	CODR	M09898-00-0076	01AUG00	OPEN
	HMLA-269	CODR	M08998-00-0042	25JUL00	CLOSED
	HMLA-269	CODR	M08998-00-0043	24JUL00	CLOSED
	HMLA-167	CODR	M09898-00-0002	18JUL00	CLOSED *
	HMM-263	CODR	M09445-00-0002	09JUL00	CLOSED *
	HMLA-269	CODR	M08998-00-0040	28JUN00	CLOSED *
	HMM-162	CODR	M09492-00-0019	27JUN00	CLOSED *
	HMLA-269	CODR	M08998-00-0038	23JUN00	CLOSED *
	HMLA-269	CODR	M08998-00-0039	23JUN00	CLOSED *
	HMLA-267	CODR	M09159-00-0016	13JUN00	CLOSED *
	HMLA-267	CODR	M09159-00-0017	13JUN00	CLOSED *

\* ACTION REPORTED IN PREVIOUS PUBLICATION

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

SOURCE	TYPE	DOCUMENT NO.	DATE	DR STATUS
HMLA-269	CODR	M08998-00-0036	13JUN00	CLOSED *
HMLA-269	CODR	M08998-00-0037	13JUN00	CLOSED *
HMLA-269	CODR	M08998-00-0035	08JUN00	CLOSED *
HMLA-167	CODR	M09898-00-0082	11MAY00	CLOSED *
HMLA-269	CODR	M08998-00-0033	19APR00	CLOSED *
HMLA-269	CODR	M08998-00-0032	03APR00	CLOSED *
HMLA-269	CODR	M08998-00-0023	06MAR00	CLOSED *
HMLA-269	CODR	M08998-00-0024	06MAR00	CLOSED *
HMM-264	CODR	M09374-00-0008	06MAR00	CLOSED *
HMM-264	CODR	M09374-00-0007	02MAR00	CLOSED *
HMLA-269	CODR	M08998-00-0020	25FEB00	CLOSED *
HMLA-269	CODR	M08998-00-0021	25FEB00	CLOSED *
HMLA-269	CODR	M08998-00-0019	24FEB00	CLOSED *
HMLA-269	CODR	M08998-00-0018	23FEB00	CLOSED *
HMLA-267	CODR	M09159-00-0004	22FEB00	CLOSED *
HMLA-167	CODR	M09898-00-0066	19FEB00	CLOSED *
HMLA-167	CODR	M09898-00-0065	17FEB00	CLOSED *
HMLA-267	CODR	M09159-00-0006	17FEB00	CLOSED *
HMLA-167	CODR	M09898-00-0063	16FEB00	CLOSED *
HMLA-167	CODR	M09898-00-0064	16FEB00	CLOSED *
HMLA-167	CODR	M09898-00-0060	13FEB00	CLOSED *
HMLA-369	CODR	M09361-00-0003	11FEB00	CLOSED *
HMLA-369	CODR	M09361-00-0004	11FEB00	CLOSED *
HMLA-167	CODR	M09898-00-0053	08FEB00	CLOSED *
HMLA-167	CODR	M09898-00-0045	31JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0046	31JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0047	31JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0048	31JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0041	27JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0042	27JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0033	26JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0034	26JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0035	26JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0036	26JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0037	26JAN00	CLOSED *
HMLA-269	CODR	M08998-00-0014	24JAN00	CLOSED *
HMLA-269	CODR	M08998-00-0015	24JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0031	23JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0025	21JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0026	21JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0027	21JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0028	21JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0029	21JAN00	CLOSED *
HMLA-167	CODR	M09898-00-0081	19JAN00	CLOSED *

**\* ACTION REPORTED IN PREVIOUS PUBLICATION**

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

SOURCE	TYPE	DOCUMENT NO.	DATE	DR STATUS
HMLA-269	CODR	M08998-00-0011	14JAN00	CLOSED *
HMLA-269	CODR	M08998-00-0012	14JAN00	CLOSED *
HMLA-269	CODR	M08998-00-0013	14JAN00	CLOSED *
HMLA-269	CODR	M08998-00-0010	12JAN00	CLOSED *
HMLA-269	CODR	M08998-00-0009	10JAN00	CLOSED *
HMLA-269	CODR	M08998-00-0008	06JAN00	CLOSED *
HMLA-267	CODR	M09159-99-0037	23DEC99	CLOSED *
HMLA-267	CODR	M09159-99-0038	23DEC99	CLOSED *
HMLA-267	CODR	M09159-99-0039	23DEC99	CLOSED *
HMLA-167	CODR	M09898-99-0077	07DEC99	CLOSED *
HMLA-167	CODR	M09898-99-0078	07DEC99	CLOSED *
HMLA-167	CODR	M09898-99-0075	05DEC99	CLOSED *
HMLA-269	CODR	M08998-00-0005	19NOV99	CLOSED *
HMLA-269	CODR	M08998-00-0006	19NOV99	CLOSED *
HMLA-167	CODR	M09898-99-0065	18NOV99	CLOSED *
HMLA-167	CODR	M09898-99-0066	18NOV99	CLOSED *
HMLA-269	CODR	M08998-00-0004	17NOV99	CLOSED *
HMLA-267	CODR	M09159-99-0035	09NOV99	CLOSED *
HMLA-167	CODR	M09898-99-0062	08NOV99	CLOSED *
HMLA-167	CODR	M09898-99-0059	28OCT99	CLOSED *
HMLA-167	CODR	M09898-99-0060	28OCT99	CLOSED *
HMLA-167	CODR	M09898-99-0056	04OCT99	CLOSED *
HMM-263	CODR	M09445-99-0022	04OCT99	CLOSED *
HMM-263	CODR	M09445-99-0023	04OCT99	CLOSED *
HMM-263	CODR	M09445-99-0048	04OCT99	CLOSED *
HMLA-167	CODR	M09898-99-0049	28SEP99	CLOSED *
HMLA-167	CODR	M09898-99-0050	28SEP99	CLOSED *
HMLA-167	CODR	M09898-99-0052	28SEP99	CLOSED *
HMLA-269	CODR	M08998-99-0053	06SEP99	CLOSED *
HMLA-269	CODR	M08998-99-0049	03SEP99	CLOSED *
HMLA-269	CODR	M08998-99-0051	03SEP99	CLOSED *
HMLA-269	CODR	M08998-99-0052	03SEP99	CLOSED *
HMLA-269	CODR	M08998-99-0048	01SEP99	CLOSED *
MAG-29	CODR	M52844-99-0023	01SEP99	CLOSED *
HMLA-269	CODR	M08998-99-0046	31AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0045	29AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0043	27AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0044	27AUG99	CLOSED *
HMLA-167	CODR	M09898-99-0046	20AUG99	CLOSED *
USS BELLEAUWOOD (LHA-3)	CODR	R20633-99-0001	19AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0042	17AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0038	13AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0039	13AUG99	CLOSED *

**\* ACTION REPORTED IN PREVIOUS PUBLICATION**



30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

<b>SOURCE</b>	<b>TYPE</b>	<b>DOCUMENT NO.</b>	<b>DATE</b>	<b>DR STATUS</b>
HMLA-269	CODR	M08998-99-0040	13AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0041	13AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0036	10AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0035	06AUG99	CLOSED *
HMLA-167	CODR	M09898-99-0039	05AUG99	CLOSED *
HMLA-167	CODR	M09898-99-0042	05AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0032	04AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0033	04AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0034	04AUG99	CLOSED *
HMLA-269	CODR	M08998-99-0026	16JUL99	CLOSED *
HMLA-269	CODR	M08998-99-0027	16JUL99	CLOSED *
HMLA-269	CODR	M08998-99-0028	16JUL99	CLOSED *
HMLA-269	CODR	M08998-99-0029	16JUL99	CLOSED *
HMLA-269	CODR	M08998-99-0030	16JUL99	CLOSED *
HMLA-269	CODR	M08998-99-0031	16JUL99	CLOSED *
HMLA-167	CODR	M09898-99-0023	28JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0026	28JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0019	24JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0020	24JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0021	24JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0022	24JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0024	24JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0025	24JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0015	21JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0016	21JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0017	21JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0018	21JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0011	10JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0012	10JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0013	10JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0014	10JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0007	02JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0008	02JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0009	02JUN99	CLOSED *
HMLA-167	CODR	M09898-99-0010	02JUN99	CLOSED *
HMLA-269	CODR	M08998-99-0022	24MAY99	CLOSED *
HMLA-269	CODR	M08998-99-0023	24MAY99	CLOSED *
HMLA-269	CODR	M08998-99-0020	20MAY99	CLOSED *
HMLA-269	CODR	M08998-99-0021	20MAY99	CLOSED *
HMLA-269	CODR	M08998-99-0019	18MAY99	CLOSED *
HMLA-269	CODR	M08998-99-0017	12MAY99	CLOSED *
HMLA-269	CODR	M08998-99-0018	12MAY99	CLOSED *
HMLA-269	CODR	M08998-99-0016	29APR99	CLOSED *
HMLA-269	CODR	M08998-99-0014	28APR99	CLOSED *

**\* ACTION REPORTED IN PREVIOUS PUBLICATION**

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

SOURCE	TYPE	DOCUMENT NO.	DATE	DR STATUS
HMLA-269	CODR	M08998-99-0015	28APR99	CLOSED *
HMLA-269	CODR	M08998-99-0008	16APR99	CLOSED *
HMLA-269	CODR	M08998-99-0009	16APR99	CLOSED *
HMLA-269	CODR	M08998-99-0006	15APR99	CLOSED *
HMLA-269	CODR	M08998-99-0004	09APR99	OPEN

**\* ACTION REPORTED IN PREVIOUS PUBLICATION**

**ACTION : HMLA-167 CODR M09898-01-0012 27SEP01 CLOSED**

END ITEM	PART/DOC. NO.	FSC	NIIN	NALC
	233AS600	1340	01-245-3945	J147
<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2				
<b>S/N:</b> BBG88K0-01				
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED				

**DESCRIPTION:**

NSWC Indian Head 011100ZOCT01: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01 Sep96 for an ordnance mission upon recovery. Ground crew noted that seven of the 14 rockets had not fired. Post mission test of aircraft revealed no discrepancies.

**ACTION TAKEN:**

CFA response is requested.

NSWC 050746ZOCT01: Reclass HMLA-167/011100ZOCT2001 rocket motors to Condition Code "H" and dispose of in accordance with local authorized procedures and as specified by NALC Mechanicsburg, PA. We will continue to monitor Fleet for any other no-fire occurrences with This rocket motor lot. This is the closing action for this CODR.

**FINDINGS AND RECOMMENDATIONS OF INVESTIGATION:**

NSWC Indian Head 011100ZOCT01: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01 Sep96 for an ordnance mission upon recovery. Ground crew noted that seven of the 14 rockets had not fired. Post mission test of aircraft revealed no discrepancies.

ACTION SUMMARY	ACTIVITY/CODE	ASSIGNMENT	DUE DATE STATUS
	NSWC INDIAN HEAD	INVESTIGATE	COMPLETE 17OCT01
	NSWC INDIAN HEAD	INVESTIGATE	COMPLETE 17OCT01
	NSWC INDIAN HEAD	INVESTIGATE	COMPLETE 17OCT01

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMLA-167 MESSAGE 011100Z OCT01	REPORT OF CODR
	NSWC INDIAN HEAD MESSAGE 050746Z OCT01	CLOSING ACTION

**ACTION : HMM-265 CODR M09404-01-0021 05SEP01 CLOSED**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BBG88L016-014			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMM-265 191400Z SEP01: During FARP prepositioning evolution, a pallet of (80) 2.75" rocket motors were loaded aboard a CH-46E aircraft. Upon arrival at IE-SHIMA Island, Japan, the aircrew attempted to offload the pallet of rocket motors via the aft ramp edge causing the descending the ramp, the corner edge of the pallet caught on the ramp edge causing the pallet to roll over on its side on the LHA pad at IE-SHIMA Island. Numerous links in the chain of events led to this mishap. There were no other problems during the evolution. Rocket motors stored with Weapons Department, CFAO Kadena. No CFA response requested.

**ACTION TAKEN:**

NSWC INDIAN HEAD 100846Z OCT01: Action for CFAO WPNS Dept: Reclassify HMM-265 191400Z SEP01 pallet of rocket motors to condition code "H" and dispose of in accordance with local authorized procedures and as specified by NALC Mechanicsburg, PA. This is the closing action for this CODR.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	COMPLETE 06NOV01

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMM-265 MESSAGE 191400Z SEP01	REPORT OF CODR
	NSWC INDIAN HEAD MESSAGE 100846Z OCT01	CLOSING ACTION

**ACTION : USS KEARSARGE CODR V21700-01-0007 16AUG01 CLOSED (LHD-3)**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BBG93M060-001X			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**DESCRIPTION:**

USS KEARSARGE 190900ZAUG01: While conducting weapons inspection, in accordance with NAVAIR 30 Jun 99, team member discovered nozzle shield (foil tape) torn and ignition lead wire broken. Repackaged rocket motor, and placed in condition code "H" with defect code HRMZZZ.

**ACTION TAKEN:**

NSWC INDIAN HEAD 301246ZAUG01: ACTION for USS KEARSARGE: Dispose of USS KEARSARGE/190900ZAUG2001 rocket motor in accordance with local authorized procedures and as specified by NALC Mechanicsburg, PA. We will continue to monitor the Fleet for any other occurrences. This is the closing action for this CODR.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE		COMPLETE 05NOV01

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	USS KEARSARGE (LHD-3) MESSAGE 190900ZAUG01	REPORT OF CODR
	NSWC INDIAN HEAD MESSAGE 301246ZAUG01	CLOSING ACTION

<b>ACTION :</b>	<b>HMLA-169</b>	<b>CODR</b>	<b>M09202-01-0005</b>	<b>25JUL01</b>	<b>CLOSED</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BB688L016-014			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-169 100015ZAUG01: Aircraft release and control checks and rocket loading performed in accordance with NAVAIR 01-H1AAC-75/01 Jan 97 and NAVAIR 01-H1AAC-1A1/15 Nov 95 with no discrepancies found. LAU 68D/A loaded on AH-1W aircraft station three per references (b) and (c). Five rockets fired and the intervalometer stepped through page five RUEOMFB2068 unclas positions. All rocket motors were the same lot number. Attempted a second firing of rockets, no fire from these two rockets motors. No visible damage to motors.

NSWC INDIAN HEAD 240846ZAUG01: Action for MALS 36: Dispose of HMLA-169/100015ZAUG01 rocket motors in accordance with local authorized procedures and as specified by NALC Mechanicsburg, PA. We will continue to monitor the Fleet for any other no-fire occurrences with this rocket motor lot. This is the closing action for this CODR.

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**ACTION TAKEN:**

No CFA response requested.

ACTION	:	ACTIVITY/CODE	ASSIGNMENT	DUE DATE	STATUS
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	COMPLETE	22OCT01
		NSWC INDIAN HEAD	INVESTIGATE	COMPLETE	22OCT01

REFERENCES	:	IDENTIFICATION	REFERENCE BRIEF
		HMLA-169 MESSAGE 100015ZAUG01	REPORT OF CODR
		NSWC INDIAN HEAD MESSAGE 240846ZAUG01	CLOSING ACTION

<b>ACTION</b>	<b>:</b>	<b>HMLA-167</b>	<b>CODR</b>	<b>M09898-01-0003</b>	<b>24MAY01</b>	<b>OPEN</b>
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END ITEM	:	PART/DOC. NO.	FSC	NIIN	NALC
		233AS600	1340	01-245-3945	J147
		<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
		<b>S/N:</b> 1340-01-144-3435			
<b>FAILED PART:</b>		DL958AS150	1340	01-144-3435	H122
		<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-167 310900ZMAY01: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01 Sep 96 for an ordnance mission. Upon recovery, ground crew discovered no rockets fired. Intervalometer stepped appropriate for five pluses. Rockets rotated in the POD during flight and came to rest in line with rocket motor fire pin. Post mission test of aircraft revealed no discrepancies.

**ACTION TAKEN:**

No CFA response requested.

ACTION	:	ACTIVITY/CODE	ASSIGNMENT	DUE DATE	STATUS
<b>SUMMARY</b>		NSWC INDIAN HEAD/4110	INVESTIGATE	05DEC01	OPEN
		NSWC INDIAN HEAD	INVESTIGATE	05DEC01	OPEN
		NSWC INDIAN HEAD	INVESTIGATE	05DEC01	OPEN

REFERENCES	:	IDENTIFICATION	REFERENCE BRIEF
		HMLA-167 MESSAGE 310900ZMAY01	REPORT OF CODR

<b>ACTION</b>	<b>:</b>	<b>HMLA-267</b>	<b>CODR</b>	<b>M09159-01-0003</b>	<b>24MAY01</b>	<b>OPEN</b>
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30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**ACTION : HMM-265 CODR M09404-01-0019 22MAY01 CLOSED**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BBG-95K060-009XA			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMM-265 141359ZSEP01: Aircraft release and control checks and weapons loading were completed in accordance with NAVAIR 01-H1AAC-75 CH3 01 Mar 99 with no discrepancies. All rocket pods were tested by USS ESSEX AIMD personnel, in accordance with NAVAIR 11-75A-61 IRAC 8 01 Aug 96 with no discrepancies. Pilot selected Station 2 and Station 3, pilot went through same arming and firing procedures. After the second pass the pods still had eleven rockets on both Station 2 and Station 3. Upon return all post checks were performed on aircraft weapons systems and LAU-61 pods in accordance with references (b) and (c)) and found rocket system to be INOP. Request disposition instructions on rocket motors. Motors held by Ship Weapons Department. Rocket motors stored with Weapons Department aboard USS ESSEX.

**ACTION TAKEN:**

NSWC INDIAN HEAD 101146ZOCT01: Action for USS ESSEX(WPNS): Recommend to reload HMM-265/141359ZSEP01(ref(a)) rockets and Launcher-61 C/A launchers on RFI ACFT and attempt to fire again. Reference (a) launchers and rockets were not the cause of reference (a) incident. We consider reference (a) to be an isolated incident which will not impact Fleet readiness. This is the closing action for this CODR.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	COMPLETE 05NOV01

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMM-265 MESSAGE 141359ZSEP01	REPORT OF CODR
	NSWC INDIAN HEAD MESSAGE 101146ZOCT01	CLOSING ACTION

**ACTION : HMT-303 CODR M55176-01-0017 09MAY01 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BBG87L014-004			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**DESCRIPTION:**

HMT 303 161000ZMAY01: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/CH 3 01 Mar 99 for ordnance delivery mission. Upon recovery, aircrew stated that one out of the fourteen rockets fired produced an excessive amount of debris from the rocket motor. Further inspection of the aircraft revealed no damage to the aircraft.

**ACTION TAKEN:**

No CFA response required.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	30DEC01	OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMT-303 MESSAGE 161000ZMAY01	REPORT OF CODR

<b>ACTION :</b>	<b>HMT-303</b>	<b>CODR</b>	<b>M55176-01-0303</b>	<b>09MAY01</b>	<b>OPEN</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BBG87L014-004			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMT-303 161000ZMAY01: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/CH3 01 Mar 99 for ordnance delivery mission. Upon recovery, aircrew stated that one out of the fourteen rockets fired produced an excessive amount of debris from rocket motor. Further inspection of A/C revealed no damage to the aircraft.

**ACTION TAKEN:**

No CFA required. Investigation still in process.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	05DEC01	OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMT-303 MESSAGE 161000ZMAY01	REPORT OF CODR

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**ACTION : STRKFIGHTWINGLANT CODR V55250-01-0012 23APR01 OPEN** |

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>LOT:</b> LAU-10			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

VFA-81 031046ZMAY01: During loading of LAU-10D/A rocket launcher, the nose dropped. Trying to steady the weapon, the team members inadvertently grabbed the fragile nose fairing, which cracked and punctured beyond repair.

**ACTION TAKEN:**

No CFA response required. Investigation is still in process.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	26DEC01	OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	STRKFIGHTWINGLANT MESSAGE 031046ZMAY01	REPORT OF CODR

**ACTION : MALS-13 CODR M57082-01-0043 20APR01 OPEN** |

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BBG89G027			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

MALS-13 162124ZMAY01: 2.75 inch rockets inspected, assembled and loaded into LAU-68 rocket PODS. Rockets failed to fire when flown during squadron ordnance sorties. Post flight inspection revealed that the rocket POD intervalometer had cycled completely. Unexpended rockets were then loaded into known good LAU-68 rocket PODS and flown again with the same results.

**ACTION TAKEN:**

CFA action requested.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	05DEC01	OPEN
	NSWC INDIAN HEAD	INVESTIGATE	05DEC01	OPEN



30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	MALS-13 MESSAGE 162124ZMAY01	REPORT OF CODR

<b>ACTION :</b>	<b>VMFA(AW)-225</b>	<b>CODR</b>	<b>M09232-01-0015</b>	<b>18APR01 OPEN</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>LOT:</b> MCA92G002-014			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

VMFA(AW)-225 211112ZAPR01: LAU-10D/A launcher was checked and loaded in accordance with NSWC Indian Head Report 30 Jun 99, on 6 Mar 01 with no discrepancies noted. LAU-10D/A launcher had been utilized for continuing flight schedule in which many captive carry hours had been accumulated. Launcher was downloaded and turned in to MALS-11 ordnance to have rockets removed, POD cleaned, tested, and warheads loosened and retorqued in accordance with locally instituted policy. This policy was instituted to prevent warheads from getting stuck on the motors and also to reverify LAU-10D/A electrical functioning. Prior to removal of rockets, launcher exterior was visually inspected for damage, no discrepancies noted.

**ACTION TAKEN:**

CFA response requested.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	26DEC01 OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	VMFA(AW)-225 MESSAGE 211112ZAPR01	REPORT OF CODR

<b>ACTION :</b>	<b>VMFA(AW)-225</b>	<b>CODR</b>	<b>M09232-01-0011</b>	<b>04APR01 OPEN</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>LOT:</b> MCA-7-23			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

VMFA(AW)-225 090559ZAPR01: LAU-10D/A launcher was checked and loaded in accordance with NSWC Indian Head Report 30 Jun 1999 on 6 Mar with no discrepancies noted. LAU-10D/A launcher had been utilized for continuing flight schedule in which many captive carry hours had

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

been accumulated. Launcher was downloaded and turned into MALS-11 ordnance to have rockets removed, POD cleaned, tested, and warheads loosened and retorqued in accordance with locally instituted policy. This policy was instituted to prevent warheads from getting stuck on the motors and also to reverify LAU-10D/A electrical functioning. Prior to removal of rockets, launcher exterior was visually inspected for any damage, no discrepancies noted.

**ACTION TAKEN:**

CFA requested.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	13DEC01	OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	VMFA(AW)-225 MESSAGE 090559ZAPR01	REPORT OF CODR

<b>ACTION :</b>	<b>MAWTS-1</b>	<b>CODR</b>	<b>M55167-01-0017</b>	<b>29MAR01</b>	<b>OPEN</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> MCA92G002-014			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

MAWTS-1 141445ZAPR01: During assembly/loading operation of LAU-10C/A launcher in accordance with NSWC Indian Head Report 30 Jun 99, one tube detent would not lock in fire position after the rocket was loaded. When attempting to rotate detent lift arm back to load position with detent lift tool, detent lever moved freely between positions. Detent pawl mechanism failed internally. Assembly crew attempted to cause detect pawl to drop/fall free from rocket motor detect groove by rotating launcher over in cradle without success. Rocket motor lodged in launcher tube.

**ACTION TAKEN:**

No CFA required. Investigation still in process.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	13DEC01	OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	MAWTS-1 MESSAGE 141445ZAPR01	REPORT OF CODR

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**ACTION : VMFA(AW)-225 CODR M09232-00-0027 14OCT00 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> MCA82D002-007			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

VMFA (AW) 225 181500ZOCT00: While attacking a target during a close air support mission, pilot acquired target and rolled in with proper symbology. With a dive angle of 40 degrees and airspeed of 400 knots at 12,000 feet, the pilot commenced depressing the release button at one second intervals. Rockets one and two launched normally, rockets three appeared to be hung and as pilot depressed the button for rocket four, an object impacted aircraft fuselage on left side below the leading edge extension. Rocket four launched normally and did not appear to strike any debris. After damage and controllability checks, aircraft returned to base without further incident. Crew observed sheared M904 fuze on MK 28 bomb on adjacent station immediately upon aircraft arrival to cala and had aircraft shut down. Post flight inspection revealed minor damage to fuselage, pylon and cover. EOD removed damaged fuze from MK 82.

**ACTION TAKEN:**

CFA response required.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	30DEC01	OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	VMFA(AW)-225 MESSAGE 181500ZOCT00	REPORT OF CODR

**ACTION : HMLA-267 CODR M09159-00-0027 03OCT00 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>LOT:</b> BBG88L-016-014			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-267 110700ZOCT00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC/75/01 Sep 96/CH3/01 Mar 99 for ordnance mission. Positively engaged target with three rockets before launcher ceased to function. Upon recovery at Farp site ordnance crew determined

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

that the intervalometer had stepped through all positions. Launcher rearmed at Farp site for continued ordnance delivery. Second attempt to fire all remaining rockets resulted in failure. aircraft, with all remaining rockets and intervalometer again stepped through with no discrepancies. Rocket adapter cable tested in ready for issue condition.

**ACTION TAKEN:**

No CFA response required. Investigation is still in process.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	09JAN01	OPEN

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		HMLA-267 MESSAGE 110700Z OCT00	REPORT OF CODR

<b>ACTION</b>	<b>:</b>	<b>HMLA-167</b>	<b>CODR</b>	<b>M09898-00-0085</b>	<b>30AUG00</b>	<b>OPEN</b>
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		<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM</b>	<b>:</b>	233AS600	1340	01-245-3945	J147
		<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
		<b>LOT:</b> ITH97E200-010			
<b>FAILED PART:</b>		DL958AS150	1340	01-144-3435	H122
		<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-167 310900ZAUG00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01 Sep 96 for an ordnance delivery mission upon recovery, ground crew discovered that tube three did not fire. Post mission testing of Aircraft revealed no discrepancies.

**ACTION TAKEN:**

Investigation still in process.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	29NOV00	OPEN

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		HMLA-167 MESSAGE 310900ZAUG00	REPORT OF CODR

<b>ACTION</b>	<b>:</b>	<b>HMLA-269</b>	<b>CODR</b>	<b>M08998-00-0054</b>	<b>27AUG00</b>	<b>OPEN</b>
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		<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM</b>	<b>:</b>	233AS600	1340	01-245-3945	J147
		<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
		<b>LOT:</b> MCA92D002-007			
<b>FAILED PART:</b>		DL958AS150	1340	01-144-3435	H122
		<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**DESCRIPTION:**

HMLA-269 270905ZAUG00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/CH3 01 MAR 99 for ordnance delivery mission. Upon recovery, pilot states LAU-10 loaded on Station three did not fire all rockets loaded (skipped tubes one, two and four). NARCADS rocket delivery system counted down to empty light indication. Testing of Aircraft revealed no discrepancies. Post flight inspection of launcher by Quality Assurance Safety Observer revealed an approximate two inch by one inch rectangular hole located in forward bulkhead of launcher tube support structure, between tubes three and four. This damage may have been caused by first rocket fired (tube three) resulting in exposure of rocket launcher circuitry to excessive heat damage resulting in no-fire of remaining rockets loaded.

**ACTION TAKEN:**

Investigation still in process.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	25NOV00	OPEN

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		HMLA-269 MESSAGE 270905ZAUG00	REPORT OF CODR

<b>ACTION</b>	<b>:</b>	<b>HMLA-773</b>	<b>CODR</b>	<b>M09472-00-0016</b>	<b>25AUG00</b>	<b>OPEN</b>
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		<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM</b>	<b>:</b>	233AS600	1340	01-245-3945	J147
		<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
		<b>LOT:</b> BBG89J016-029			
<b>FAILED PART:</b>		DL958AS150	1340	01-144-3435	H122
		<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-773 281300ZAUG00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/CH3 01 Mar 99 for an ordnance delivery mission. Upon recovery of Aircraft, ordnance dearming Quality Assurance Safety Observer noticed that a 2.75" rocket stabilization rod was wrapped around station two BRU-22 rack. Pilot and Gunner reported no abnormal observations during rocket firing portion of mission. LAU-68 cycled through and fired all seven rockets. No Aircraft damage occurred.

**ACTION TAKEN:**

Investigation still in process.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	26NOV00	OPEN

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

<b>REFERENCES :</b>	<b>IDENTIFICATION</b> HMLA-773 MESSAGE 281300ZAUG00	<b>REFERENCE BRIEF</b> REPORT OF CODR
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<b>ACTION :</b>	<b>HMLA-269</b>	<b>CODR</b>	<b>M08998-00-0047</b>	<b>06AUG00 OPEN</b>
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		<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>		233AS600	1340	01-245-3945	J147
		<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
		<b>LOT:</b> R2501/DELTA			
<b>FAILED PART:</b>		DL958AS150	1340	01-144-3435	H122
		<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-269 070901ZAUG00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/CH3 01 MAR 99 for ordnance delivery mission. Upon recovery, pilot states LAU-10 loaded on Station three did not fire. Multiple attempts were made by the pilot to reset switchology and attempt to fire during flight. Pilot switchology verified as correct. Post mission testing of Aircraft revealed no discrepancies. Rocket cable inspected and reported as Ready for Issue.

**RESULTS OF DEPOT SURVEILLANCE:**

Investigation still in process.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	06NOV00 OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b> HMLA-269 MESSAGE 070901ZAUG00 NSWC INDIAN HEAD/4110 MESSAGE 201547ZAPR01	<b>REFERENCE BRIEF</b> REPORT OF CODR RESPONSE TO FIVE INCH ROCKET SYSTEM
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<b>ACTION :</b>	<b>HMLA-269</b>	<b>CODR</b>	<b>M08998-00-0048</b>	<b>06AUG00 CLOSED</b>
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		<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>		233AS600	1340	01-245-3945	J147
		<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
		<b>LOT:</b> R2501/DELTA			
<b>FAILED PART:</b>		DL958AS150	1340	01-144-3435	H122
		<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-269 070902ZAUG00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/CH3 01 MAR 99 for ordnance delivery mission. Upon recovery, pilot states LAU-10 loaded on Station two did not fire all rockets loaded (skipped tubes three and four). Multiple attempts were made by pilot to reset switchology and attempt to fire remaining rockets. Pilot switchology verified as correct. Post

30-NOV-01

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 16629

(Continued)

mission testing of Aircraft revealed no discrepancies. Rocket cable inspected and reported as Ready for Issue.

**ACTION TAKEN:**

Investigation still in process.

NSWC Indian Head 200847ZAPR01: Rocket motors were reloaded in a different RFI launcher and fired OK. The launcher was cleaned and elect checked using MK III test set and checked OK. This is the closing action for this deficiency.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE		COMPLETE 20APR01

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		HMLA-269 MESSAGE 070902ZAUG00	REPORT OF CODR
		NSWC INDIAN HEAD MESSAGE 200847ZAPR01	CLOSING ACTION

<b>ACTION</b>	<b>:</b>	<b>HMLA-167</b>	<b>CODR</b>	<b>M09898-00-0078</b>	<b>04AUG00</b>	<b>OPEN</b>
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		<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM</b>	<b>:</b>	233AS600	1340	01-245-3945	J147
		<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
		<b>LOT:</b> BBG88K016-010			
<b>FAILED PART:</b>		DL958AS150	1340	01-144-3435	H122
		<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-167 040830ZAUG00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01 Sep 96 for an ordnance delivery mission. Intervalometer was set to "A" by arm crew. Upon recovery, ground crew discovered that tubes one, two and three did not fire. Intervalometer cycled through normal sequence. Post mission testing revealed no discrepancies.

**ACTION TAKEN:**

Investigation still in process.

<b>ACTION</b>	<b>:</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>		NSWC INDIAN HEAD	INVESTIGATE	02NOV00	OPEN

<b>REFERENCES</b>	<b>:</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
		HMLA-167 MESSAGE 040830ZAUG00	REPORT OF CODR

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**ACTION : HMLA-167 CODR M09898-00-0077 02AUG00 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>LOT:</b> ITH97E200-010			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-167 030900ZAUG00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01 Sep 96 for an ordnance delivery mission. Upon recovery, ground crew discovered that tube six did not fire. Post mission testing of Aircraft revealed no discrepancies.

**ACTION TAKEN:**

Investigation still in process.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	02NOV00	OPEN

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMLA-167 MESSAGE 030900ZAUG00	REPORT OF CODR

**ACTION : HMLA-167 CODR M09898-00-0076 01AUG00 OPEN**

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>LOT:</b> BBG88K016-009			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-167 021600ZAUG00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01 Sep 96 for an ordnance delivery mission. Upon recovery, ground crew noticed POD on Station one fired four out of five rockets. Inspection one showed tube two did not fire prior to launch. The intervalometer was set on "A" arm position, intervalometer cycled through normal sequence. The Pilots stated aircraft was on final run and no attempts were made to recycle switches. Post mission testing of aircraft revealed on discrepancies.

**RESULTS OF DEPOT SURVEILLANCE:**

Investigation still in process.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE</b>	<b>STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	01NOV00	OPEN



30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

PROBLEM NO: 16629

(Continued)

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMLA-167 MESSAGE 021600ZAUG00	REPORT OF CODR

<b>ACTION :</b>	<b>HMLA-269</b>	<b>CODR</b>	<b>M08998-00-0042</b>	<b>25JUL00 CLOSED</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BBG88K016-009			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

**DESCRIPTION:**

HMLA-269 250911ZJUL00: Aircraft tested and loaded in accordance with NALC Mechanicsburg, PA /041030ZAUG2000/// for an ordnance delivery mission. Upon recovery of aircraft, ordnance dearming OA/SO observed 2.75" rocket stabilization rod wrapped around station 3 BRU-23 rack. Pilot/gunner reported no abnormal observations during rocket firing portion of mission. LAU-61C/A fired 17 of 19 rockets loaded (skipped tubes 1 and 2). No aircraft damage was noted or reported. Subsequent review of TSU/video tape does not reveal any visible evidence of stab rod ejection. CFA response required.

**ACTION TAKEN:**

NSWC INDIAN HEAD 091547ZJAN01: Action for HMLA-269 and MCAS Yuma Weapons Station: Reclassify references (a) and (b)) motors to condition code November in accordance with reference (c). References (a) and (b)) incidents will be tracked under reference (d). Please use reference (d) number in any future correspondence concerning References (a) and (b)). This is the closing action for References (a) and (b)) CODRS.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	IINVESTIGATE	COMPLETE 06NOV01

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMLA-269 MESSAGE 250911ZJUL00	REPORT OF CODR
	NSWC INDIAN HEAD MESSAGE 091547ZJAN01	CLOSING ACTION

<b>ACTION :</b>	<b>HMLA-269</b>	<b>CODR</b>	<b>M08998-00-0043</b>	<b>24JUL00 CLOSED</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS600	1340	01-245-3945	J147
	<b>NOMEN:</b> ROCKET MOTOR, MK 66 MOD 2			
	<b>S/N:</b> BBG88K016-009			
<b>FAILED PART:</b>	DL958AS150	1340	01-144-3435	H122
	<b>NOMEN:</b> 2.75INCH LAU-68D/A, THERMALLY PROTECTED			

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16629**

**(Continued)**

**DESCRIPTION:**

HMLA-269 250912ZJUL00: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/CH3 01 Mar 99 for an ordnance delivery mission. Upon recovery of aircraft, ordnance dearming QA/SO observed 2.75" rocket stabilization rod protruding out of LAU-61C/A tube #15 and wrapped around towards aft end of launcher. Pilot/Gunner reported no abnormal observations during rocket firing portion of mission. LAU-61 fired 18 of 19 rockets loaded (skipped tube 1). No damage to aircraft was observed or reported.

**ACTION TAKEN:**

NSWC INDIAN HEAD 091547ZJAN01: Action for HMLA-269 and MCAS Yuma Weapons Station: Reclassify references (a) and (b)) motors to condition code November in accordance with reference (c). References (a) and (b)) incidents will be tracked under reference (d). Please use reference (d) number in any future correspondence concerning References (a) and (b)). This is the closing action for References (a) and (b)) CODRS.

<b>ACTION :</b>	<b>ACTIVITY/CODE</b>	<b>ASSIGNMENT</b>	<b>DUE DATE STATUS</b>
<b>SUMMARY</b>	NSWC INDIAN HEAD	INVESTIGATE	COMPLETE 06NOV01

<b>REFERENCES :</b>	<b>IDENTIFICATION</b>	<b>REFERENCE BRIEF</b>
	HMLA-269 MESSAGE 250912ZJUL00	REPORT OF CODR
	NSWC INDIAN HEAD MESSAGE 091547ZJAN01	CLOSING ACTION

<b>ACTION :</b>	<b>HMLA-269</b>	<b>CODR</b>	<b>M08998-99-0004</b>	<b>09APR99 OPEN</b>
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	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	233AS500	1340	01-245-3945	J147
	<b>NOMEN:</b> 2.75-INCH ROCKET MOTOR			
	<b>S/N:</b> BBG89F016-021			
<b>FAILED PART:</b>	958AS150	1340	01-144-3435	
	<b>NOMEN:</b> LAUNCHER, ROCKET			
	<b>S/N:</b> 20			

**DESCRIPTION:**

HMLA-269 080911ZAPR99: Reported that an aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/CH2 01OCT96. Upon recovery the pilot indicated multiple attempts to fire Station 3 rockets from LAU-68D/A Launcher were unsuccessful. All other stores fired normally. Inspection of the suspect pod by download/QASO revealed intervalometer was still set on Position "A". Subsequent testing of aircraft in accordance with NAVAIR 01-H1AAC-75/CH2 01OCT96 revealed no discrepancies.

30-NOV-01

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 16629

(Continued)

**ACTION TAKEN:**

No CFA required. Investigation still in process.

ACTION	:	ACTIVITY/CODE	ASSIGNMENT	DUE DATE	STATUS
SUMMARY	:	NSWC INDIAN HEAD	INVESTIGATE	08JUL99	OPEN

REFERENCES	:	IDENTIFICATION	REFERENCE BRIEF
	:	HMLA-269 MESSAGE 080911ZAPR99	REPORT OF CODR

30-NOV-01

**ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM**

**PROBLEM NO: 16633**

**OPEN**

	<b>NOMENCLATURE</b>	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	5-INCH ROCKET MOTOR	DL318AS100	1340	00-148-1130	J271
	5-INCH ZUNI ROCKET	DL318AS200	1340	00-007-9750	
	LAU-10D/A LAUNCHER	DL4902292	1340	00-328-7904	H142

**EI CNTRL NO:**

**PROB BRIEF :** FIVE-INCH ROCKET MOTOR FIRED INTERMITTENTLY

**PROBLEM :** A number of Mk 71 Mod 1 Five-Inch Rocket Motors fired intermittently.  
**DESCRIPTION**

**PREVENTIVE :** Unknown at this time.  
**ACTION**

**CORRECTIVE :** Unknown at this time.  
**ACTION**

	<b>SOURCE</b>	<b>TYPE</b>	<b>DOCUMENT NO.</b>	<b>DATE</b>	<b>DR STATUS</b>
<b>OCCURRENCES:</b>	HMLA-167	CODR	M09898-99-0057	04OCT99	OPEN
	HMLA-167	CODR	M09898-99-0058	04OCT99	OPEN
	HMLA-167	CODR	M09898-99-0051	30SEP99	OPEN

**ACTION :** HMLA-167                      CODR              M09898-99-0057              04OCT99 OPEN

	<b>PART/DOC. NO.</b>	<b>FSC</b>	<b>NIIN</b>	<b>NALC</b>
<b>END ITEM :</b>	DL318AS100	1340	00-148-1130	J271
<b>FAILED PART:</b>	<b>NOMEN:</b> 5-INCH ROCKET MOTOR DL318AS100	1340	00-148-1130	J271
<b>END ITEM :</b>	<b>NOMEN:</b> 5-INCH ROCKET MOTOR DL4902292	1340	00-328-7904	H142
<b>FAILED PART:</b>	<b>NOMEN:</b> LAU-10D/A LAUNCHER <b>LOT:</b> 75IH600 DL4902292	1340	00-328-7904	H142
	<b>NOMEN:</b> LAU-10D/A LAUNCHER			

**DESCRIPTION:**

HMLA-167 041105Z0CT99: Aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01SEP96 for an ordnance delivery mission. Upon recovery, ground crew discovered two out of four rockets were fired from station two tubes two and four, tubes one and three did not fire. Pilot stated that on the first pass one attempt to fire resulted in two rockets firing at the same time. On the second pass he attempted to fire four times resulting in no rockets being expended. The mode selector switch was set on the "single" position in accordance with NAVAIR 01-H1AAC-75/01 SEP 96 revealed no discrepancies.

30-NOV-01

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 16633

(Continued)

**ACTION TAKEN:**

CFA response not required.

ACTION	:	ACTIVITY/CODE	ASSIGNMENT	DUE DATE	STATUS
SUMMARY	:	NSWC INDIAN HEAD	INVESTIGATE	02JAN00	OPEN

REFERENCES	:	IDENTIFICATION	REFERENCE BRIEF
	:	HMLA-167 MESSAGE 041105ZOCT99	REPORT OF CODR

ACTION	:	HMLA-167	CODR	M09898-99-0058	04OCT99	OPEN
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		PART/DOC. NO.	FSC	NIIN	NALC
END ITEM	:	DL318AS100	1340	00-148-1130	J271
		NOMEN: 5-INCH ROCKET MOTOR			
FAILED PART:		DL318AS100	1340	00-148-1130	J271
		NOMEN: 5-INCH ROCKET MOTOR			
END ITEM	:	DL4902292	1340	00-328-7904	H142
		NOMEN: LAU-10D/A LAUNCHER			
		S/N: 751H600			
FAILED PART:		DL4902292	1340	00-328-7904	H142
		NOMEN: LAU-10D/A LAUNCHER			

**DESCRIPTION:**

HMLA-167 04111ZOCT99: The aircraft was tested and loaded in accordance with NAVAIR 01-H1AAC-75/01Sep96. Upon recovery, ground crew discovery 1 out of 2 rockets were fired from station 3 tube 1, tube 2 did not fire. Pilot stated that on the first pass he attempted to fire twice resulting in one rocket being fired. On the second pass he attempted to fire twice again resulting in no rockets being fired. Post mission testing of aircraft in accordance with NAVAIR 01-H1AAC-75/01Sep96 revealed no discrepancies.

**ACTION TAKEN:**

CFA response not required

ACTION	:	ACTIVITY/CODE	ASSIGNMENT	DUE DATE	STATUS
SUMMARY	:	NSWC INDIAN HEAD	INVESTIGATE	02JAN00	OPEN

REFERENCES	:	IDENTIFICATION	REFERENCE BRIEF
	:	HMLA-167 MESSAGE 041110ZOCT99	REPORT OF CODR

30-NOV-01

ROCKETS ACTIVE  
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

PROBLEM NO: 16633

(Continued)

ACTION : HMLA-167 CODR M09898-99-0051 30SEP99 OPEN

	PART/DOC. NO.	FSC	NIIN	NALC
END ITEM :	DL318AS200	1340	00-007-9750	
	NOMEN: 5-INCH ZUNI ROCKET			
	S/N: MCA93G002-029			
FAILED PART:	DL318AS200	1340	00-007-9750	
	NOMEN: 5-INCH ZUNI ROCKET			

**DESCRIPTION:**

HMLA-167 280800ZSEP99: Reported that after aircraft tested and loaded in accordance with NAVAIR 01-H1AAC-75/01 SEP 99 an ordnance delivery mission, ground crew discovered one out of four rockets fired. Tubes 2-4 did not fire. Pilot stated that he fired one rockets then on second attempt no rockets were expended. the mode selector switch was set on the "single" position in accordance with NAVAIR 01-H1AAC-75/01 prior to launch. Post mission revealed no discrepancies.

ACTION	: ACTIVITY/CODE	ASSIGNMENT	DUE DATE STATUS
SUMMARY	NSWC INDIAN HEAD	INVESTIGATE	27DEC99 OPEN

REFERENCES	: IDENTIFICATION	REFERENCE BRIEF
	HMLA-167 MSG 280800ZSEP99	REPORT OF CODR